



LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

PREFACE

1. The Light Armored Vehicle (Basic) Repairer Course is designed to provide instruction for the tasks listed in Section I Appendix B of this POI. The terminal learning objectives for each lesson in Section IV have been developed from the task list.

2. All agencies and commands receiving graduates of this course, and specifically those sited in Section VI, are requested to review the contents of this POI and evaluate performance of the graduates against field requirements and submit comments and recommendations to:

COMMANDING OFFICER  
Marine Detachment  
U.S. Army Ordnance Center and School  
Aberdeen Proving Ground, Maryland 21005-5281  
(ATTN: Academics Officer)

3. The following information for this course has been submitted for inclusion in the current edition of NAVMC 2771 (Formal School Catalog):

LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

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LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

SECTION I - COURSE DESCRIPTIVE DATA

1. COURSE TITLE. LIGHT ARMORED VEHICLE REPAIRMAN (USMC)
2. LOCATION. United States Marine Corps, Marine Detachment, U.S. Army Ordnance Center & School, Aberdeen Proving Ground, MD 21005-5281
3. COURSE ID. A01GBD1
4. OTHER SERVICE COURSE NUMBER. 611-2147
5. MILITARY ARTICLES AND SERVICE LIST NUMBER. NA
6. PURPOSE. To train selected Marines in entry level skills necessary for duty as a Light Armored Vehicle Repairman.
7. SCOPE. This course will provide entry level students with instructions pertaining to organizational and limited intermediate level maintenance for Light Armored Vehicles. This course emphasizes maintenance forms/record keeping procedures, basic operation of the vehicle, troubleshooting and repair of hull systems to include, engine, transmission, power train, suspension, turret, electrical, pneumatic, and hydraulic systems.
8. LENGTH (PEACETIME). 45 Training Days
9. CURRICULUM BREAKDOWN (PEACETIME).
  - 301.00 Academic Hours
    - 2.50 Demonstration
    - 65.60 Lecture
    - 185.75 Practical Application
    - 27.25 Performance Exam
    - 19.90 Written Exam
  - 59.00 Administrative Hours
    - 43.00 Commanders Time
    - 8.00 In Processing
    - 8.00 Out Processing / Graduation
10. LENGTH (MOBILIZATION). 36 Training Days
11. CURRICULUM BREAKDOWN (MOBILIZATION). Same as Peacetime.
12. MAXIMUM CLASS CAPACITY. 8
13. OPTIMUM CLASS CAPACITY. 8
14. MINIMUM CLASS CAPACITY. 4
15. CLASS FREQUENCY. 17
16. STUDENT PREREQUISITES.
  - a. MM 105 or higher
  - b. Qualified class III swimmer
17. MOS RECEIVED. 2147
18. QUOTA CONTROL. CG, Training and Education Command, (C4611)
19. FUNDING. TECOM (C464)
  - a. Entry level student travel costs are charged to accession PCS.
  - b. Reserve students funded by MARFORRES.

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## SECTION I - COURSE DESCRIPTIVE DATA

c. Contact appropriate G-3T (LANT, PAC, RES) for TAD/TEMINS/TEM DU quota and funding information.

20. REPORTING INSTRUCTIONS. Students report to the Commanding Officer, Marine Detachment, U.S. Army Ordnance Center & School, Aberdeen Proving Ground, Maryland 21005. All students should report in by 2359 the Wednesday prior to the start date. Report to Bldg 4501, Randolph Barracks, Commercial phone 1-800-392-2015 ext: 5703 or DSN: 298-5703. Marines will report in the Service Alpha Uniform. Privately Owned Vehicles (POV) & family members are not authorized. Government messing and billeting are available.

21. INSTRUCTOR STAFFING REQUIREMENTS. See Appendix A for Instructor Computation Worksheet.

T/O Number - 5060, T/O Date 030307

LN#	GRADE	MOS	BILLET DESCRIPTION	REQUIRED
198I	E7	2147	INSTRUCTOR/CRS SNCOIC	1
198J	E6	2147	INSTRUCTOR	5
198K	E5	2147	INSTRUCTOR	1

22. SCHOOL OVERHEAD REQUIREMENTS.

LN#	GRADE	MOS	BILLET DESCRIPTION	REQUIRED
193A	O4	2102	COMMANDING OFFICER / MC REP	1
193B	O3E	2102	XO / INSTRUCTOR	1
193C	E8	9999	FIRST SERGEANT	1
193E	E3	2161	POLICE SERGEANT	1
194A	E6	0193	ADMIN CHIEF	1
194B	E5	0121	ADMIN CLERK	1
194C	E4	0121	UNIT DIARY CLERK	1
194D	E3	0121	UNIT DIARY CLERK	1
194E	E4	0121	PERSONNEL CLERK	1
194F	E3	0151	ADMIN CLERK	2
195A	O3E	2102	CRS DEV SUPERVISOR	1
195C	E7	2111	ACADEMIC COORDINATOR	1
195D	E6	2146	CURRICULUM DEV / INSTRUCTOR	1
195E	E6	2111	CURRICULUM DEV / INSTRUCTOR	1
196A	E7	3043	SUPPLY CHIEF	1
196B	E4	3043	SUPPLY NCO	1
196C	E3	3043	SUPPLY CLERK	1
196D	E3	3043	SUPPLY CLERK	1
199A	W-3	2120	PLT CMDR / COURSE DIR	1
199B	E6	0369	PLATOON SERGEANT	1
199C	E8	2149	SENIOR INSTRUCTOR	1
199O	E9	2181	MOS SPECIALIST	1
199P	E6	2171	CURRICULUM DEV / INSTRUCTOR	1
UNK1	E6	2100	MAT PLT SERGEANT	1
UNK3	E7	2100	S-3 OPERATIONS & TRAINING / SACO	1
UNK4	E7	2100	DETACHMENT GUNNERY SERGEANT	1
UNK6	E7	2100	ISC / COMPUTER REPAIR / NETWORK ADMIN	1

Comments Line# 195D: The Curriculum Developers are Marines who are responsible for the input of information into the CDD/POI and Master Lesson Files. This billet is a full time job and the Marine is taken from one of the platoons.

Comments Line# UNK1 : Marines Awaiting Training, one instructor is tasked with this duty for 6 months out of the year. This billet is a full time job and the Marine is taken from one of the platoons.

Comments Line# UNK3 : This billet is a full time job, who is responsible for

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## SECTION I - COURSE DESCRIPTIVE DATA

all permanent party training and the Marine is taken from one of the platoons.

Comments Line# UNK4 : The Detachment Gunnery Sergeant is in charge of barracks, grounds and maintenance. This billet is a full time job and the Marine is taken from one of the platoons.

Comments Line# UNK6 : The ISC is responsible for all the computer assets and LAN connections throughout the Detachment. This billet is a full time job and the Marine is taken from one of the platoons.

### 23. TRAINING/EDUCATION SUPPORT REQUIREMENTS.

The following facility requirements are identified for one iteration of this course:

<u>FACILITY</u>	<u>FACILITY ID</u>	<u>SQ FT</u>	<u>REQ'D</u>	<u>ON HAND</u>	<u>SHORT</u>
CLASS ROOM	BLD # 5217	220	4	4	0
MAINTENANCE BAY	BLD # 5217	8040	1	1	0
TOOL ROOM	BLD # 5217	385	1	1	0

The following materiel requirements are identified for one iteration of this course:

<u>NOMEMCLATURE</u>	<u>NSN</u>	<u>UNIT OF ISSUE</u>	<u>REQ'D</u>	<u>ON HAND</u>	<u>SHORT</u>
6V53T	7035-00-X00- 0026	EACH	4	4	0
AIR COMPRESSOR	-	EACH	1	1	0
ANALYZER, SET ENGINE (STE-ICE)	4910-01-222-6589	SET	4	4	0
BATTERY TESTER/CHARGER	-	EACH	1	1	0
BOX LIGHT PROJECTOR	-	EACH	4	4	0
BRAKE TEST, HYDRAULIC	-	EACH	4	2	2
CHAIRS	-	EACH	36	36	0
COOLANT RECYCLERS	-	EACH	4	4	0
CPU, PENTIUM, ATLAS	7021-01-X00-0018	EACH	2	2	0
CPU, PENTIUM, DESKTOP	7021-01-X00-0017	EACH	12	12	0
CRANE OVERHEAD 10 TON	-	UNIT	1	1	0
CREEPER	-	EACH	10	10	0
CUTAWAY DIFFERENTIAL	-	EACH	1	1	0
CUTAWAY STRUT	-	EACH	1	1	0
DESK, COMPUTER	-	EACH	4	4	0
DESKS, 2-MAN	-	EACH	16	16	0
ELECTRICAL SYSTEM	6901-00-X00-0037	EACH	1	1	0
TRAINNING BOARD					
ENGINE, BRIGGS&STRATTON	3750-01-X00-1158	EACH	8	8	0
GHSS	4910-01-231-0343	EACH	4	4	0
HEAT GUNS	-	EACH	4	4	0
HELMET CVC, LGE	8415-00-094-2684	EACH	4	4	0
HELMET CVC, MEDIUM	8415-00-094-2691	EACH	5	5	0
HELMET, CVC, SM	8415-00-094-2679	EACH	4	4	0
HOT TANK (PARTS WASHER)	-	EACH	1	1	0
HP LASERJET, 4 PRINTER	7025-01-X00-0023	EACH	1	1	0
HYDRAULIC, JACK	4910-00-289-7233	EACH	3	3	0
JACK STAND, AUTOMOTIVE	-	EACH	12	12	0
LAV RECOVERY VARIANT	2320-01-123-1609	EACH	2	2	0
LAV, ANTI-TANK	2320-01-123-1609	EACH	1	1	0
LAV-25	2320-01-123-1602	EACH	5	4	1
MANIFOLD TEST, HYDRAULIC	-	EACH	4	4	0
MOUSE, REMOTE CONTROL	7025-01-X00-0003	EACH	4	4	0
MT653DR CUTAWAY	1005-00-R15-0002	EACH	1	1	0
MULTIMETER	-	EACH	15	15	0
PETRO FUEL FILTER, UNIT	-	KIT	1	1	0
PICK LIGHT	-	EACH	12	12	0
PNEUMATIC, BRAKE TRAINING	6910-00-X00-0037	DRUM	1	1	0

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## SECTION I - COURSE DESCRIPTIVE DATA

BOARD						
POWER STEERING TRAINING	6910-00-X00-0038	EACH	1	1	0	
BOARD						
POWER SUPPLY CHRISTY	6130-00-332-5600	EACH	1	1	0	
PROJECTOR SCREEN	-	EACH	4	4	0	
RADIATOR TEST	-	EACH	4	4	0	
SNAP-ON ELECTRICAL TEST	-	EACH	8	4	4	
BOARD						
STAND, POWER PACK	4910-21-920-0678	EACH	6	6	0	
TOOL KIT GENERAL,	5180-00-606-3566	EACH	16	16	0	
MECHANIC						
VEST FRAG EXLRG	8470-01-092-8501	EACH	2	2	0	
VEST FRAG LRG	8470-01-092-8500	EACH	8	8	0	
VEST FRAG MED	8470-01-092-8499	EACH	10	10	0	
VEST FRAG SM	8470-01-092-8498	EACH	5	5	0	

24. TASK LIST. See Appendix B.

CDD NOTES: None.

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## SECTION I - COURSE DESCRIPTIVE DATA

### APPENDIX A - INSTRUCTOR COMPUTATION WORKSHEET (LOCKSTEP)

#### SECTION I COURSE DATA

COURSE: A01GBD1                      LIGHT ARMORED VEHICLE REPAIRMAN (USMC)

LOCATION: United States Marine Corps, Marine Detachment, U.S. Army Ordnance Center & School, Aberdeen Proving Ground, MD 21005-5281

PROGRAMMED ANNUAL INPUT (FY 03):	114	LENGTH (AVG CAL DAYS):	63
PROGRAMMED NUMBER OF CLASSES/YEAR:	17	LENGTH (TRAINING DAYS):	45
		SYLLABUS HOURS:	301.00

#### SECTION II CURRICULUM BREAKOUT

(A)	(B)	(C)	(D)	(E)	(F)
	MAX	MAX			
TRAINING	CLASS	RATIO	INST	SYLLABUS	INST
SITUATION	SIZE	(X:1)	REQ	HOURS	MANHOURS
Demonstration	8	÷ 8.00	= 1.00	x 2.50	= 2.50
Lecture	8	÷ 8.00	= 1.00	x 65.60	= 65.60
Practical Application	8	÷ 2.67	= 3.00	x 7.00	= 20.97
Practical Application	8	÷ 4.00	= 2.00	x 166.25	= 332.50
Practical Application	8	÷ 8.00	= 1.00	x 12.50	= 12.50
Performance Exam	8	÷ 4.00	= 2.00	x 27.25	= 54.50
Written Exam	8	÷ 8.00	= 1.00	x 19.90	= 19.90

TOTAL INSTRUCTOR MANHOURS PER CLASS(G): 508.47

#### SECTION III INSTRUCTOR COMPUTATION

TOTAL INSTRUCTOR MANHOURS PER CLASS	x	PROGRAMMED NUMBER OF CLASSES	=	ANNUAL INSTRUCTOR CONTACT HOURS	<u>8644.05</u>
ANNUAL INSTRUCTOR CONTACT HOURS	x	1.26	=	ANNUAL INSTRUCTOR HOURS	<u>10891.51</u>
ANNUAL INSTRUCTOR HOURS	÷	12	=	MONTHLY INSTRUCTOR HOURS	<u>907.63</u>
MONTHLY INSTRUCTOR HOURS	÷	145	=	INSTRUCTORS REQUIRED	<u>6.259 = 6</u>

ICW NOTES: 7 instructors are required to support this course per the Table of Organization. Class starts are every three weeks with a course length of 9 weeks. We always have 3 classes on deck. This gives us 1 instructor and 1 assistant instructor per class. Instructors are tasked with teaching not only basic entry level Marines, but are required to mentor Marines within the course and provide additional support as required by the Detachment. These taskers include Ordnance Officer's/Chief's course instructors, chasers for brig/CCU, monitor urinalysis, and PFT's. Progression through the Army Staff & Faculty Development Program, and Marine Corps Professional Education is required. Requested addition of 1 LCpl MOS 2147 to maintain the vehicles.



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SECTION I - COURSE DESCRIPTIVE DATA

APPENDIX B - TASKLIST

DUTY: 2147.01 HULL OPERATION OF THE LAV FAMILY OF VEHICLES (FOV)

- TASKS: (S) 2147.01.01 OPERATE THE LAV FOV HULL  
(S) 2147.01.02 PERFORM OPERATOR PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)  
(S) 2147.01.03 OPERATE COMMON AUXILIARY EQUIPMENT

DUTY: 2147.02 MAINTAIN THE LAV FAMILY OF VEHICLES HULL

- TASKS: (S) 2147.02.01 MAINTAIN ELECTRICAL SYSTEM  
(S) 2147.02.02 MAINTAIN HYDRAULIC SYSTEM  
(P) 2147.02.03 MAINTAIN PNEUMATIC SYSTEM  
(S) 2147.02.04 MAINTAIN BRAKE SYSTEM  
(S) 2147.02.05 MAINTAIN STEERING AND SUSPENSION SYSTEMS  
(S) 2147.02.06 MAINTAIN COOLING SYSTEM  
(S) 2147.02.07 MAINTAIN FUEL SYSTEM  
(S) 2147.02.08 MAINTAIN POWER PACK  
(S) 2147.02.09 MAINTAIN DRIVETRAIN  
(S) 2147.02.10 MAINTAIN FIRE SUPPRESSION SYSTEM  
(S) 2147.02.11 MAINTAIN MARINE DRIVE SYSTEM  
(S) 2147.02.12 PERFORM SCHEDULED PREVENTATIVE MAINTENANCE CHECKS AND SERVICES (PMCS)  
(S) 2147.02.13 PERFORM LIMITED TECHNICAL INSPECTION (LTI)

DUTY: 2147.05 ADMINISTRATIVE FUNCTIONS

- TASKS: (S) 2147.05.06 COMPLY WITH COMMON SHOP PROCEDURES  
(S) 2147.05.07 COMPLY WITH COMMON MAINTENANCE PROCEDURES

TASK LIST NOTES: None.

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SECTION II - SUMMARY OF HOURS

PEACETIME (45 TRAINING DAYS)

ACADEMIC TIME

<u>TITLE</u>	<u>HOURS</u>	<u>ANNEX</u>
COMMON KNOWLEDGE AND SKILLS	27.00	A
OPERATION OF THE LAV	29.00	B
AUTOMOTIVE ELECTRICAL SYSTEMS	52.50	C
PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS	52.50	D
DRIVE TRAIN, STEERING AND SUSPENSION	28.00	E
DIESEL ENGINE	42.00	F
ANNUAL SCHEDULED PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)	21.00	G
LAV-R OPERATION AND FINAL EXAM	<u>49.00</u>	H
TOTAL ACADEMIC HOURS:	301.00	

ADMINISTRATIVE TIME

IN PROCESSING	8.00	Z
OUT PROCESSING	8.00	Z
COMMANDERS TIME	<u>43.00</u>	Z
TOTAL ADMINISTRATIVE HOURS:	59.00	

SUMMARY (PEACETIME)

ACADEMIC TIME	301.00
ADMINISTRATIVE TIME	<u>59.00</u>
TOTAL ACADEMIC AND ADMINISTRATIVE TIME:	360.00

MOBILIZATION (36 TRAINING DAYS)

1. Training will increase to a 10 hour day during mobilization. There is no difference in the academic hours planned in the event of mobilization.

SECTION III - SCOPE OF ANNEXES

A. COMMON KNOWLEDGE AND SKILLS. The learning outcome for this annex is to introduce the student to knowledge and skills common to all entry level students, such as how to use technical manuals and other publications, hazard communications standards, shop safety practices, use of tools and how to fill out maintenance forms. Knowledge and skills learned in this annex will be re-enforced in greater detail in all remaining annexes. This annex is Marine unique.

B. OPERATION OF THE LAV. The learning outcome for this annex is to provide the student with the knowledge and skills required to operate the LAV Hull, identify equipment components, perform preventive maintenance checks and services (PMCS) and crew responsibilities. Students are also given an opportunity to obtain a learner's permit for the LAV through written testing and day/night driving.

C. AUTOMOTIVE ELECTRICAL SYSTEMS. The learning outcome for this annex is to provide the student with the knowledge and skills required to identify electrical/electronic circuit theory, schematic analysis, metric notation and utilize a digital multimeter (DMM) to obtain voltage, amperage and resistance readings. Students are then instructed on specific LAV electrical analysis/troubleshooting and repair. Upon completion on this annex the student will be able to diagnose and repair electrical malfunctions on the LAV Hull. Additionally the knowledge and skills gained in this annex will allow the student to better comprehend the electro-mechanical components of the pneumatic, hydraulic, fuel and brake systems taught in later annexes.

D. PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS. The learning outcome for this annex is to provide the student with the knowledge and skills required to identify the characteristics and functioning of hydraulic and pneumatic components and how they affect system operation. Students will be able to isolate faults/malfunctions in specific components of the LAV hydraulic and pneumatic systems. Students will not only be able to complete repairs in these systems but the knowledge and skills gained in this annex will aid the student in fault diagnosis and repair of the brake, steering, suspension and drive train systems taught in later annexes.

E. DRIVE TRAIN, STEERING AND SUSPENSION. The learning outcome for this annex is to provide the student with the knowledge and skills required to identify characteristics and functions of the drive train, suspension, steering and brake system components. Students also receive instruction on removal and replacement procedures, fault analysis and utilization of precision measuring devices to determine established wear criteria. Specific failure analysis is taught on the LAV suspension, steering and brake systems to aid the student in conducting the additional task of bleeding the eight wheel pneumatic over hydraulic brake system, wheel alignment, inspection, fault isolation, removal, repair and installation of suspension components. The knowledge and skills gained in this annex will be re-enforced in troubleshooting procedures used in all remaining annexes.

F. DIESEL ENGINE. As a pre-requisite to this annex, students are required to complete the MCI "Fundamentals of Diesel Engines" so a basic understanding of diesel engines repair can be obtained. Upon completion of this annex the student will be able to perform general engine diagnosis, in-chassis engine inspection repair and tune up, lubrication and cooling system diagnosis and repair, air induction and exhaust system diagnosis and repair, fuel system diagnosis and repair, starting system diagnosis and repair, gauges and instrument warning devices diagnosis and repair and engine brake diagnosis and repair.

G. ANNUAL SCHEDULED PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS). The learning outcome for the annex is to provide the student with the knowledge and skills required to inspect, remove and install the LAV power pack (engine/transmission) and conduct an annual scheduled PMCS. Additional instruction is provided on splitting the power pack, performing modification verification, failure analysis, adjustments and a limited technical inspection.

H. LAV-R OPERATION AND FINAL EXAM. The learning outcome for the annex is to provide

SECTION III - SCOPE OF ANNEXES

the student with the knowledge and skills required for operating the hydraulic crane, power take off, generator, outriggers and winch. This will give the student the foundation of knowledge required to conduct rigging and recovery operations utilizing the LAV-R. For the End of Course Exam, each student will be required to randomly choose a maintenance scenario (instructor induced malfunction). They will be provided tools, maintenance forms and technical manuals. They will then have to diagnose and repair the malfunction.

Z. ADMINISTRATIVE. Administrative processing provides for check in, check out, graduation, physical training, inspections and movement to the training areas.

SECTION IV - CONCEPT CARDS

1. A concept card is developed to describe each academic or administrative block of time during a course. These concept cards are then grouped into subject areas, called annexes, which are summarized in Section III. Annexes A through Y are reserved for academic lessons and exams. Annex Z is reserved for administrative time.

2. The following information is contained on each academic concept card in Section IV:

a. Heading. The heading listed at the top of the concept card includes the name of the course, the section of the POI, and the letter and title of the annex to which the lesson or exam is assigned.

b. Lesson/Exam ID. This designator is a unique code assigned to this specific lesson or exam within this course.

c. Hours. This number (carried to the second decimal place) depicts the amount of time required to conduct the lesson or exam once, even if it is presented multiple times to smaller groups of students.

d. Title. This is the title assigned to this lesson or exam. It should refer to the subject matter covered in the lesson or exam when possible.

e. Phase (optional). This is a code depicting the phase (e.g., week, month, etc.) of the course during which this lesson or exam takes place.

f. Group (optional). This is a code depicting the instructional group or section responsible for teaching or developing this lesson or exam.

g. Methods,Hours,S:I Ratio. Displayed on the concept card are codes which symbolize the methods of instruction used to present this lesson or exam. Following each method code is the time (in hours) allocated to that method and the student to instructor ratio associated with that period of time. (The hours and ratios depicted on the concept card are used to determine instructor staffing requirements.) The following is a comprehensive list of methods used in this course and their respective codes:

<u>Method</u>	<u>Code</u>
Commanders Time	CMDR
Demonstration	D
In Processing	IP
Lecture	L
Out Processing / Graduation	OP
Practical Application	PA
Performance Exam	X(P)
Written Exam	X(W)

h. Media. Displayed on the concept card are codes which symbolize the media used to support this lesson or exam. The following is a comprehensive list of media used in this course and their respective codes:

<u>Medium</u>	<u>Code</u>
Actual Item/Object	AIO
Computer	CPU
Handout	HO
Mockup	MU
NONE	N/A
Power Point Presentation	PPP
White Board	WB
Workbook	WBK

i. Learning Objective(s)/Lesson Purpose. Academic concept cards contain either learning objectives or a lesson purpose statement, but not both.

SECTION IV - CONCEPT CARDS

(1) Learning Objective. A learning objective describes a behavior that students are expected to perform following instruction, not necessarily identical to a behavior performed on the job. It also details the conditions under which that behavior is performed and the minimum standards of acceptable performance. A student masters the objective when his or her performance equals or exceeds the standard. (Information concerning student evaluation and mastery is contained in Section V of this POI.)

(a) Terminal Learning Objective (TLO). One, and only one, TLO is written for each task in Section I-B of the POI. The behavior in the TLO duplicates the actual behavior required on the job, modified only if the constraints of the academic environment will not allow it. A TLO should only appear on a concept card for a lesson or exam during which students actually perform the TLO. Each TLO is assigned a numeric designator identical to the designator of its corresponding task in Section I-B, which is identical to the designator of the Individual Training Standard (ITS) from which the task was derived. This designator is located in parentheses at the end of the TLO.

(b) Enabling Learning Objective (ELO). ELOs are designed to teach students the knowledges and skills required for successful performance of the TLOs. Each ELO is placed only on concept cards for lessons or exams during which students actually perform the ELO. Many introductory lessons will contain only ELOs. Each ELO is assigned the same numeric designator as the TLO it supports, followed by a unique combination of one or two letters. This designator is located in parentheses at the end of the ELO. (The first 26 ELOs are assigned the letters "a" through "z" consecutively. If there are more than 26 ELOs, they are assigned the letters "aa" through "az," then "ba" through "bz," etc.)

(2) Lesson Purpose. A lesson purpose statement is recorded on a concept card where no learning objectives are appropriate (e.g., overview, orientation, or enrichment lesson) and the lesson is not to be evaluated. The lesson purpose statement clearly describes the rationale for presenting the lesson.

j. Ammunition Requirements. Whenever a lesson requires the use of ammunition by students or by the instructional staff in support of the lesson, the concept card for that lesson will include a table depicting those requirements. Included for each type of ammunition will be its Department of Defense Identification Code (DODIC), its nomenclature, the average number of rounds used by each student, and the number of support rounds.

k. Notes (optional). This section of the concept card contains any information pertinent to the lesson. Examples of items which may be addressed here are instructor requirements, scheduling notes, special prerequisites, references to tests on which material will be evaluated, etc.

l. References. This section contains the source documents used for development of the lesson or other references which relate to the lesson. At a minimum, it must contain all documents referenced in the learning objectives included on the concept card.

3. The following information is contained on each administrative concept card in Section IV:

a. Heading. The heading listed at the top of the concept card includes the name of the course, the section of the POI, and the fact that this concept card is part of Annex Z, Administrative Time.

b. Event ID. This designator is a unique code assigned to this administrative event within the course.

c. Hours. This number (carried to the second decimal place) depicts the amount of administrative time required for this event. If this is a repeating event, one concept

SECTION IV - CONCEPT CARDS

card may indicate the cumulative hours associated with this event throughout the course.

d. Event. This is a short description of the administrative event.

e. Notes (optional). This section of the concept card contains any information pertinent to the administrative block of time.

4. The following pages contain useful information for locating the learning objectives and lessons that make up this course.

a. Location of Learning Objectives Report. This report lists, by learning objective designator, all learning objectives developed for this course. It also identifies every concept card on which each learning objective is included.

b. Academic and Administrative Summaries. These reports list, by annex, all academic and administrative concept cards in Section IV. Within each annex the concept cards are listed in lesson identifier order. The information provided for each entry includes Identifier, Title, Hours, and Type [Task-oriented lesson (T), Lesson Purpose lesson (LP), Exam (E), or Administrative Time (ADM)]. A subtotal of hours is provided for each annex and for all academic and administrative concept cards. Total POI hours are listed at the end of the Administrative Summary.

LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

SECTION IV - CONCEPT CARDS

LOCATION OF LEARNING OBJECTIVES REPORT

LO	ANNEX	LESSON ID	LESSON TITLE
2147.01.01	B	21470B03	Introduction to the Light Armored Vehicle Family of Vehicles
	B	21470B06	Driving During Day Light Hours
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
	H	21470H03	License Exam (JKT)
	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
	H	21470H05	Auxiliary Systems Diagnosis and Repair
	H	21470H06	LAV-R Operate
2147.01.01a	B	21470B03	Introduction to the Light Armored Vehicle Family of Vehicles
2147.01.01b	B	21470B03	Introduction to the Light Armored Vehicle Family of Vehicles
2147.01.01c	B	21470B03	Introduction to the Light Armored Vehicle Family of Vehicles
2147.01.01d	B	21470B03	Introduction to the Light Armored Vehicle Family of Vehicles
2147.01.01e	B	21470B03	Introduction to the Light Armored Vehicle Family of Vehicles
2147.01.01f	B	21470B06	Driving During Day Light Hours
2147.01.01g	B	21470B06	Driving During Day Light Hours
2147.01.01h	H	21470H05	Auxiliary Systems Diagnosis and Repair
2147.01.01i	H	21470H05	Auxiliary Systems Diagnosis and Repair
2147.01.01j	H	21470H05	Auxiliary Systems Diagnosis and Repair
2147.01.01k	H	21470H05	Auxiliary Systems Diagnosis and Repair
2147.01.01l	H	21470H06	LAV-R Operate
2147.01.01m	H	21470H06	LAV-R Operate
2147.01.01n	H	21470H06	LAV-R Operate
2147.01.01o	H	21470H06	LAV-R Operate
2147.01.01p	H	21470H06	LAV-R Operate
2147.01.01q	H	21470H06	LAV-R Operate
2147.01.01r	H	21470H06	LAV-R Operate
2147.01.01s	B	21470B06	Driving During Day Light Hours
2147.01.01t	B	21470B06	Driving During Day Light Hours



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LOCATION OF LEARNING OBJECTIVES REPORT

LO	ANNEX	LESSON ID	LESSON TITLE
2147.01.01u	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.01.02	B	21470B05	Operator PMCS
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.01.02a	B	21470B05	Operator PMCS
2147.01.02b	B	21470B05	Operator PMCS
2147.01.02c	B	21470B05	Operator PMCS
2147.01.02d	B	21470B05	Operator PMCS
2147.01.02e	B	21470B05	Operator PMCS
2147.01.02f	B	21470B05	Operator PMCS
2147.01.02g	B	21470B05	Operator PMCS
2147.01.03	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.01.03a	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.01.03b	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.01.03c	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.01.03d	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.01.03e	H	21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization
2147.02.01	C	21470C01	Basic Electrical Theory
	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols
	C	21470C03	Battery Diagnosis and Repair
	C	21470C04	Starter System Diagnosis and Repair
	C	21470C05	Charging System Diagnosis and Repair
	C	21470C06	Light System Diagnosis and Repair
	C	21470C07	Gauges and Warning Devices Diagnosis and Repair
	C	21470C08	Related Systems Diagnosis and repair
	C	21470C09	Automotive Electrical System diagnosis and Repair
	C	21470C10	Job Knowledge Test
	C	21470C11	Electrical JPT
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.01a	C	21470C01	Basic Electrical Theory
2147.02.01b	C	21470C01	Basic Electrical Theory
2147.02.01c	C	21470C01	Basic Electrical Theory
2147.02.01d	C	21470C01	Basic Electrical Theory
2147.02.01e	C	21470C01	Basic Electrical Theory
2147.02.01f	C	21470C01	Basic Electrical Theory
2147.02.01g	C	21470C01	Basic Electrical Theory
2147.02.01h	C	21470C01	Basic Electrical Theory
2147.02.01i	C	21470C01	Basic Electrical Theory
2147.02.01j	C	21470C01	Basic Electrical Theory
2147.02.01k	C	21470C01	Basic Electrical Theory
2147.02.01l	C	21470C01	Basic Electrical Theory
2147.02.01m	C	21470C01	Basic Electrical Theory
2147.02.01n	C	21470C01	Basic Electrical Theory
2147.02.01o	C	21470C01	Basic Electrical Theory
2147.02.01p	C	21470C01	Basic Electrical Theory
2147.02.01q	C	21470C01	Basic Electrical Theory
2147.02.01r	C	21470C01	Basic Electrical Theory
2147.02.01s	C	21470C01	Basic Electrical Theory
2147.02.01t	C	21470C01	Basic Electrical Theory
2147.02.01u	C	21470C01	Basic Electrical Theory
2147.02.01v	C	21470C01	Basic Electrical Theory
2147.02.01w	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols
2147.02.01x	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols
2147.02.01y	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols
2147.02.01z	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols

LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.01aa	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols
2147.02.01ab	C	21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols
2147.02.01ac	C	21470C03	Battery Diagnosis and Repair
2147.02.01ad	C	21470C03	Battery Diagnosis and Repair
2147.02.01ae	C	21470C03	Battery Diagnosis and Repair
2147.02.01af	C	21470C03	Battery Diagnosis and Repair
2147.02.01ag	C	21470C03	Battery Diagnosis and Repair
2147.02.01ah	C	21470C03	Battery Diagnosis and Repair
2147.02.01ai	C	21470C03	Battery Diagnosis and Repair
2147.02.01aj	C	21470C03	Battery Diagnosis and Repair
2147.02.01ak	C	21470C03	Battery Diagnosis and Repair
2147.02.01al	C	21470C03	Battery Diagnosis and Repair
2147.02.01am	C	21470C03	Battery Diagnosis and Repair
2147.02.01an	C	21470C04	Starter System Diagnosis and Repair
2147.02.01ao	C	21470C04	Starter System Diagnosis and Repair
2147.02.01ap	C	21470C04	Starter System Diagnosis and Repair
2147.02.01aq	C	21470C04	Starter System Diagnosis and Repair
2147.02.01ar	C	21470C04	Starter System Diagnosis and Repair
2147.02.01as	C	21470C04	Starter System Diagnosis and Repair
2147.02.01at	C	21470C04	Starter System Diagnosis and Repair
2147.02.01au	C	21470C04	Starter System Diagnosis and Repair
2147.02.01av	C	21470C04	Starter System Diagnosis and Repair
2147.02.01aw	C	21470C04	Starter System Diagnosis and Repair
2147.02.01ax	C	21470C05	Charging System Diagnosis and Repair
2147.02.01ay	C	21470C05	Charging System Diagnosis and Repair
2147.02.01az	C	21470C05	Charging System Diagnosis and Repair
2147.02.01ba	C	21470C05	Charging System Diagnosis and Repair

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.01bb	C	21470C05	Charging System Diagnosis and Repair
2147.02.01bc	C	21470C05	Charging System Diagnosis and Repair
2147.02.01bd	C	21470C05	Charging System Diagnosis and Repair
2147.02.01be	C	21470C05	Charging System Diagnosis and Repair
2147.02.01bf	C	21470C05	Charging System Diagnosis and Repair
2147.02.01bg	C	21470C06	Light System Diagnosis and Repair
2147.02.01bh	C	21470C06	Light System Diagnosis and Repair
2147.02.01bi	C	21470C06	Light System Diagnosis and Repair
2147.02.01bj	C	21470C06	Light System Diagnosis and Repair
2147.02.01bk	C	21470C06	Light System Diagnosis and Repair
2147.02.01bl	C	21470C06	Light System Diagnosis and Repair
2147.02.01bm	C	21470C06	Light System Diagnosis and Repair
2147.02.01bn	C	21470C06	Light System Diagnosis and Repair
2147.02.01bo	C	21470C06	Light System Diagnosis and Repair
2147.02.01bp	C	21470C06	Light System Diagnosis and Repair
2147.02.01bq	C	21470C06	Light System Diagnosis and Repair
2147.02.01br	C	21470C06	Light System Diagnosis and Repair
2147.02.01bs	C	21470C06	Light System Diagnosis and Repair
2147.02.01bt	C	21470C07	Gauges and Warning Devices Diagnosis and Repair
2147.02.01bu	C	21470C07	Gauges and Warning Devices Diagnosis and Repair
2147.02.01bv	C	21470C07	Gauges and Warning Devices Diagnosis and Repair
2147.02.01bw	C	21470C07	Gauges and Warning Devices Diagnosis and Repair
2147.02.01bx	C	21470C07	Gauges and Warning Devices Diagnosis and Repair
2147.02.01by	C	21470C08	Related Systems Diagnosis and repair
2147.02.01bz	C	21470C08	Related Systems Diagnosis and repair
2147.02.01ca	C	21470C08	Related Systems Diagnosis and repair
2147.02.01cb	C	21470C08	Related Systems Diagnosis and repair
2147.02.01cc	C	21470C08	Related Systems Diagnosis and repair

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.01cd	C	21470C08	Related Systems Diagnosis and repair
2147.02.01ce	C	21470C08	Related Systems Diagnosis and repair
2147.02.01cf	C	21470C08	Related Systems Diagnosis and repair
2147.02.01cg	C	21470C08	Related Systems Diagnosis and repair
2147.02.01ch	C	21470C08	Related Systems Diagnosis and repair
2147.02.01ci	C	21470C08	Related Systems Diagnosis and repair
2147.02.01cj	C	21470C08	Related Systems Diagnosis and repair
2147.02.01ck	C	21470C08	Related Systems Diagnosis and repair
2147.02.01cl	C	21470C09	Automotive Electrical System diagnosis and Repair
2147.02.01cm	C	21470C09	Automotive Electrical System diagnosis and Repair
2147.02.01cn	C	21470C09	Automotive Electrical System diagnosis and Repair
2147.02.01co	C	21470C09	Automotive Electrical System diagnosis and Repair
2147.02.01cp	C	21470C09	Automotive Electrical System diagnosis and Repair
2147.02.01cq	C	21470C09	Automotive Electrical System diagnosis and Repair
2147.02.02	D	21470D01	Hydraulic Fundamentals
	D	21470D02	Hydraulic Schematic Analysis
	D	21470D03	Hydraulics System Diagnosis and Repair
	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
	D	21470D05	Hydraulic Winch System Diagnosis and Repair
	D	21470D06	Steering System Diagnosis and Repair
	D	21470D10	JKT Hydraulics/Compressed Air/Brakes
	D	21470D11	JPT Hydraulics/Compressed Air/Brakes
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.02a	D	21470D01	Hydraulic Fundamentals
2147.02.02b	D	21470D01	Hydraulic Fundamentals
2147.02.02c	D	21470D01	Hydraulic Fundamentals
2147.02.02d	D	21470D01	Hydraulic Fundamentals
2147.02.02e	D	21470D01	Hydraulic Fundamentals
2147.02.02f	D	21470D01	Hydraulic Fundamentals
2147.02.02g	D	21470D01	Hydraulic Fundamentals
2147.02.02h	D	21470D01	Hydraulic Fundamentals

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.02i	D	21470D01	Hydraulic Fundamentals
2147.02.02j	D	21470D01	Hydraulic Fundamentals
2147.02.02k	D	21470D01	Hydraulic Fundamentals
2147.02.02l	D	21470D01	Hydraulic Fundamentals
2147.02.02m	D	21470D01	Hydraulic Fundamentals
2147.02.02n	D	21470D02	Hydraulic Schematic Analysis
2147.02.02o	D	21470D02	Hydraulic Schematic Analysis
2147.02.02p	D	21470D02	Hydraulic Schematic Analysis
2147.02.02q	D	21470D02	Hydraulic Schematic Analysis
2147.02.02r	D	21470D02	Hydraulic Schematic Analysis
2147.02.02s	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02t	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02u	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02v	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02w	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02x	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02y	D	21470D03	Hydraulics System Diagnosis an Repair
2147.02.02z	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02aa	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02ab	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02ac	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02ad	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02ae	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02af	D	21470D04	Hydraulic Fan Motor System Diagnosis and Repair
2147.02.02ag	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02ah	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02ai	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02aj	D	21470D05	Hydraulic Winch System Diagnosis and Repair

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.02ak	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02al	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02am	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02an	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02ao	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02ap	D	21470D05	Hydraulic Winch System Diagnosis and Repair
2147.02.02aq	D	21470D06	Steering System Diagnosis and Repair
2147.02.02ar	D	21470D06	Steering System Diagnosis and Repair
2147.02.02as	D	21470D06	Steering System Diagnosis and Repair
2147.02.02at	D	21470D06	Steering System Diagnosis and Repair
2147.02.02au	D	21470D06	Steering System Diagnosis and Repair
2147.02.02av	D	21470D06	Steering System Diagnosis and Repair
2147.02.02aw	D	21470D06	Steering System Diagnosis and Repair
2147.02.02ax	D	21470D06	Steering System Diagnosis and Repair
2147.02.03	D	21470D07	Compressed Air Theory/Schematics
	D	21470D08	Compressed Air System Diagnosis and Repair
	D	21470D10	JKT Hydraulics/Compressed Air/Brakes
	D	21470D11	JPT Hydraulics/Compressed Air/Brakes
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.03a	D	21470D07	Compressed Air Theory/Schematics
2147.02.03b	D	21470D07	Compressed Air Theory/Schematics
2147.02.03c	D	21470D07	Compressed Air Theory/Schematics
2147.02.03d	D	21470D07	Compressed Air Theory/Schematics
2147.02.03e	D	21470D07	Compressed Air Theory/Schematics
2147.02.03f	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03g	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03h	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03i	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03j	D	21470D08	Compressed Air System Diagnosis and Repair

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.03k	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03l	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03m	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03n	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03o	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03p	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03q	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03r	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03s	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03t	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03u	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03v	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03w	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03x	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.03y	D	21470D08	Compressed Air System Diagnosis and Repair
2147.02.04	D	21470D09	Brake System Diagnosis and Repair
	D	21470D10	JKT Hydraulics/Compressed Air/Brakes
	D	21470D11	JPT Hydraulics/Compressed Air/Brakes
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.04a	D	21470D09	Brake System Diagnosis and Repair
2147.02.04b	D	21470D09	Brake System Diagnosis and Repair
2147.02.04c	D	21470D09	Brake System Diagnosis and Repair
2147.02.04d	D	21470D09	Brake System Diagnosis and Repair
2147.02.04e	D	21470D09	Brake System Diagnosis and Repair
2147.02.04f	D	21470D09	Brake System Diagnosis and Repair
2147.02.04g	D	21470D09	Brake System Diagnosis and Repair
2147.02.04h	D	21470D09	Brake System Diagnosis and Repair
2147.02.04i	D	21470D09	Brake System Diagnosis and Repair
2147.02.04j	D	21470D09	Brake System Diagnosis and Repair



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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.04k	D	21470D09	Brake System Diagnosis and Repair
2147.02.04l	D	21470D09	Brake System Diagnosis and Repair
2147.02.04m	D	21470D09	Brake System Diagnosis and Repair
2147.02.04n	D	21470D09	Brake System Diagnosis and Repair
2147.02.04o	D	21470D09	Brake System Diagnosis and Repair
2147.02.04p	D	21470D09	Brake System Diagnosis and Repair
2147.02.04q	D	21470D09	Brake System Diagnosis and Repair
2147.02.04r	D	21470D09	Brake System Diagnosis and Repair
2147.02.04s	D	21470D09	Brake System Diagnosis and Repair
2147.02.04t	D	21470D09	Brake System Diagnosis and Repair
2147.02.04u	D	21470D09	Brake System Diagnosis and Repair
2147.02.04v	D	21470D09	Brake System Diagnosis and Repair
2147.02.04w	D	21470D09	Brake System Diagnosis and Repair
2147.02.04x	D	21470D09	Brake System Diagnosis and Repair
2147.02.04y	D	21470D09	Brake System Diagnosis and Repair
2147.02.04z	D	21470D09	Brake System Diagnosis and Repair
2147.02.04aa	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ab	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ac	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ad	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ae	D	21470D09	Brake System Diagnosis and Repair
2147.02.04af	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ag	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ah	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ai	D	21470D09	Brake System Diagnosis and Repair
2147.02.04aj	D	21470D09	Brake System Diagnosis and Repair
2147.02.04ak	D	21470D09	Brake System Diagnosis and Repair
2147.02.05	E	21470E01	Introduction to Drive Train, Steering and Suspension

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LO	ANNEX	LESSON ID	LESSON TITLE
			Systems
	E	21470E03	Steering/Suspension System Diagnosis and Repair
	E	21470E04	JKT Drive Train, Steering and Suspension
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.05a	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
2147.02.05b	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
2147.02.05c	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05d	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05e	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05f	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05g	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05h	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05i	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05j	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05k	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05l	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05m	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05n	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05o	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05p	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05q	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05r	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05s	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05t	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05u	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05v	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05w	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05x	E	21470E03	Steering/Suspension System Diagnosis and Repair

LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

SECTION IV - CONCEPT CARDS

LOCATION OF LEARNING OBJECTIVES REPORT

LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.05y	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05z	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05aa	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ab	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ac	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ad	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ae	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05af	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ag	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ah	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05ai	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.05aj	E	21470E03	Steering/Suspension System Diagnosis and Repair
2147.02.06	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.07	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.08	F	21470F01	Fundamentals of Diesel Engines/Overview
	F	21470F02	General Engine Diagnosis and Repair
	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
	F	21470F04	Air Induction Theory
	F	21470F05	Fuel System Theory/Troubleshooting
	F	21470F06	JKT Diesel Engine/Cooling/Fuel/Air Induction
	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.08a	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08b	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08c	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08d	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08e	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08f	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08g	F	21470F01	Fundamentals of Diesel Engines/Overview

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SECTION IV - CONCEPT CARDS

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.08h	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08i	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08j	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08k	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08l	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08m	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08n	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08o	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08p	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08q	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08r	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08s	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08t	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08u	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08v	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08w	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08x	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08y	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08z	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08aa	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ab	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ac	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ad	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ae	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08af	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ag	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ah	F	21470F01	Fundamentals of Diesel Engines/Overview
2147.02.08ai	F	21470F02	General Engine Diagnosis and Repair

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.08aj	F	21470F02	General Engine Diagnosis and Repair
2147.02.08ak	F	21470F02	General Engine Diagnosis and Repair
2147.02.08al	F	21470F02	General Engine Diagnosis and Repair
2147.02.08am	F	21470F02	General Engine Diagnosis and Repair
2147.02.08an	F	21470F02	General Engine Diagnosis and Repair
2147.02.08ao	F	21470F02	General Engine Diagnosis and Repair
2147.02.08ap	F	21470F02	General Engine Diagnosis and Repair
2147.02.08aq	F	21470F02	General Engine Diagnosis and Repair
2147.02.08ar	F	21470F02	General Engine Diagnosis and Repair
2147.02.08as	F	21470F02	General Engine Diagnosis and Repair
2147.02.08at	F	21470F02	General Engine Diagnosis and Repair
2147.02.08au	F	21470F02	General Engine Diagnosis and Repair
2147.02.08av	F	21470F02	General Engine Diagnosis and Repair
2147.02.08aw	F	21470F02	General Engine Diagnosis and Repair
2147.02.08ax	F	21470F02	General Engine Diagnosis and Repair
2147.02.08ay	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08az	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08ba	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bb	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bc	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bd	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08be	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bf	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bg	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bh	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bi	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bj	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bk	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.08bl	F	21470F03	Lubrication and Cooling System Theory/Troubleshooting
2147.02.08bm	F	21470F04	Air Induction Theory
2147.02.08bn	F	21470F04	Air Induction Theory
2147.02.08bo	F	21470F04	Air Induction Theory
2147.02.08bp	F	21470F04	Air Induction Theory
2147.02.08bq	F	21470F04	Air Induction Theory
2147.02.08br	F	21470F04	Air Induction Theory
2147.02.08bs	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08bt	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08bu	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08bv	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08bw	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08bx	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08by	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08bz	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08ca	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08cb	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08cc	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08cd	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08ce	F	21470F05	Fuel System Theory/Troubleshooting
2147.02.08cf	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08cg	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08ch	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08ci	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08cj	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.08ck	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08cl	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08cm	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08cn	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08co	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.08cp	G	21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)
2147.02.09	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
	E	21470E02	Power Train Diagnosis and Repair
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.09a	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
2147.02.09b	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
2147.02.09c	E	21470E02	Power Train Diagnosis and Repair
2147.02.09d	E	21470E02	Power Train Diagnosis and Repair
2147.02.09e	E	21470E02	Power Train Diagnosis and Repair
2147.02.09f	E	21470E02	Power Train Diagnosis and Repair
2147.02.09g	E	21470E02	Power Train Diagnosis and Repair
2147.02.09h	E	21470E02	Power Train Diagnosis and Repair
2147.02.09i	E	21470E02	Power Train Diagnosis and Repair
2147.02.09j	E	21470E02	Power Train Diagnosis and Repair
2147.02.09k	E	21470E02	Power Train Diagnosis and Repair
2147.02.09l	E	21470E02	Power Train Diagnosis and Repair
2147.02.09m	E	21470E02	Power Train Diagnosis and Repair
2147.02.09n	E	21470E02	Power Train Diagnosis and Repair
2147.02.09o	E	21470E02	Power Train Diagnosis and Repair

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SECTION IV - CONCEPT CARDS

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.09p	E	21470E02	Power Train Diagnosis and Repair
2147.02.09q	E	21470E02	Power Train Diagnosis and Repair
2147.02.09r	E	21470E02	Power Train Diagnosis and Repair
2147.02.09s	E	21470E02	Power Train Diagnosis and Repair
2147.02.09t	E	21470E02	Power Train Diagnosis and Repair
2147.02.09u	E	21470E02	Power Train Diagnosis and Repair
2147.02.09v	E	21470E02	Power Train Diagnosis and Repair
2147.02.10	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.11	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
	E	21470E02	Power Train Diagnosis and Repair
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.11a	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
2147.02.11b	E	21470E01	Introduction to Drive Train, Steering and Suspension Systems
2147.02.11c	E	21470E02	Power Train Diagnosis and Repair
2147.02.11d	E	21470E02	Power Train Diagnosis and Repair
2147.02.11e	E	21470E02	Power Train Diagnosis and Repair
2147.02.11f	E	21470E02	Power Train Diagnosis and Repair
2147.02.11g	E	21470E02	Power Train Diagnosis and Repair
2147.02.11h	E	21470E02	Power Train Diagnosis and Repair
2147.02.11i	E	21470E02	Power Train Diagnosis and Repair
2147.02.12	F	21470F07	Engine Tune Up
	F	21470F08	JPT Engine Tune Up
	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.02.12a	F	21470F07	Engine Tune Up
2147.02.12b	F	21470F07	Engine Tune Up
2147.02.12c	F	21470F07	Engine Tune Up
2147.02.12d	F	21470F07	Engine Tune Up



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LO	ANNEX	LESSON ID	LESSON TITLE
2147.02.12e	F	21470F07	Engine Tune Up
2147.02.12f	F	21470F07	Engine Tune Up
2147.02.12g	F	21470F07	Engine Tune Up
2147.02.12h	F	21470F07	Engine Tune Up
2147.02.12i	F	21470F07	Engine Tune Up
2147.02.12j	F	21470F07	Engine Tune Up
2147.02.12k	F	21470F07	Engine Tune Up
2147.02.12l	F	21470F07	Engine Tune Up
2147.02.12m	F	21470F07	Engine Tune Up
2147.02.12n	F	21470F07	Engine Tune Up
2147.02.12o	F	21470F07	Engine Tune Up
2147.02.12p	F	21470F07	Engine Tune Up
2147.02.12q	F	21470F07	Engine Tune Up
2147.02.12r	F	21470F07	Engine Tune Up
2147.02.12s	F	21470F07	Engine Tune Up
2147.02.12t	F	21470F07	Engine Tune Up
2147.02.12u	F	21470F07	Engine Tune Up
2147.02.12v	F	21470F07	Engine Tune Up
2147.02.13	H	21470H01	Final Exam (JKT)
	H	21470H02	Final Exam JPT
2147.05.06	B	21470B01	LAV Shop Operation/Safety
	B	21470B02	Toolbox Inventory/Issue
	A	21XXAA07	Shop Safety
	A	21XXAA08	Hazard Communication
	A	21XXAA09	Common Tools
	A	21XXAA11	Job Knowledge Test 21XXAA03 Through 21XXAA10
2147.05.06a	A	21XXAA07	Shop Safety
2147.05.06b	A	21XXAA07	Shop Safety
2147.05.06c	A	21XXAA07	Shop Safety
2147.05.06d	A	21XXAA07	Shop Safety
2147.05.06e	A	21XXAA08	Hazard Communication

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.05.06f	B	21470B01	LAV Shop Operation/Safety
	A	21XXAA08	Hazard Communication
2147.05.06g	A	21XXAA09	Common Tools
2147.05.06h	A	21XXAA09	Common Tools
2147.05.06i	A	21XXAA09	Common Tools
2147.05.06j	B	21470B01	LAV Shop Operation/Safety
2147.05.06k	B	21470B01	LAV Shop Operation/Safety
2147.05.06l	B	21470B01	LAV Shop Operation/Safety
2147.05.06m	B	21470B01	LAV Shop Operation/Safety
2147.05.06n	B	21470B01	LAV Shop Operation/Safety
2147.05.06o	B	21470B01	LAV Shop Operation/Safety
2147.05.06p	B	21470B01	LAV Shop Operation/Safety
2147.05.06q	B	21470B02	Toolbox Inventory/Issue
2147.05.07	B	21470B04	Ordnance Vehicle Forms and Records
	A	21XXAA03	Marine Corps Publications
	A	21XXAA04	Maintenance Administration
	A	21XXAA05	Modifications
	A	21XXAA06	Calibrations
	A	21XXAA11	Job Knowledge Test 21XXAA03 Through 21XXAA10
2147.05.07a	A	21XXAA03	Marine Corps Publications
2147.05.07b	A	21XXAA03	Marine Corps Publications
2147.05.07c	A	21XXAA03	Marine Corps Publications
2147.05.07d	A	21XXAA03	Marine Corps Publications
2147.05.07e	A	21XXAA03	Marine Corps Publications
2147.05.07f	A	21XXAA03	Marine Corps Publications
2147.05.07g	A	21XXAA03	Marine Corps Publications
2147.05.07h	A	21XXAA03	Marine Corps Publications
2147.05.07i	A	21XXAA06	Calibrations
2147.05.07j	A	21XXAA06	Calibrations
2147.05.07k	A	21XXAA06	Calibrations
2147.05.07l	A	21XXAA05	Modifications

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LO	ANNEX	LESSON ID	LESSON TITLE
2147.05.07m	A	21XXAA05	Modifications
2147.05.07n	A	21XXAA05	Modifications
2147.05.07o	A	21XXAA04	Maintenance Administration
2147.05.07p	B	21470B04	Ordnance Vehicle Forms and Records
2147.05.07q	B	21470B04	Ordnance Vehicle Forms and Records
2147.05.07r	B	21470B04	Ordnance Vehicle Forms and Records
2147.05.07s	B	21470B04	Ordnance Vehicle Forms and Records

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SECTION IV - CONCEPT CARDS

ACADEMIC SUMMARY

IDENTIFIER	TITLE	HRS	TYPE
ANNEX A - COMMON KNOWLEDGE AND SKILLS			
21XXAA01	Course Introduction	0.50	LP
21XXAA02	Maintenance Management Overview	0.50	LP
21XXAA03	Marine Corps Publications	6.00	T
21XXAA04	Maintenance Administration	9.00	T
21XXAA05	Modifications	1.00	T
21XXAA06	Calibrations	1.00	T
21XXAA07	Shop Safety	1.00	T
21XXAA08	Hazard Communication	1.00	T
21XXAA09	Common Tools	3.00	T
21XXAA10	Troubleshooting	1.00	LP
21XXAA11	Job Knowledge Test 21XXAA03 Through 21XXAA10	2.00	E
21XXAA12	Maintenance Management Overview	0.50	LP
21XXAA13	Movement to School	0.50	LP
Annex Total :		27.00	
ANNEX B - OPERATION OF THE LAV			
21470B01	LAV Shop Operation/Safety	1.00	T
21470B02	Toolbox Inventory/Issue	1.50	T
21470B03	Introduction to the Light Armored Vehicle Family of Vehicles	3.50	T
21470B04	Ordnance Vehicle Forms and Records	2.00	T
21470B05	Operator PMCS	7.00	T
21470B06	Driving During Day Light Hours	7.00	T
21470B07	Briggs & Stratton Engine	7.00	LP
Annex Total :		29.00	
ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS			
21470C01	Basic Electrical Theory	7.00	T
21470C02	Read and Interpret Electrical Schematic Diagrams and Symbols	7.00	T
21470C03	Battery Diagnosis and Repair	3.50	T
21470C04	Starter System Diagnosis and Repair	3.50	T
21470C05	Charging System Diagnosis and Repair	3.50	T
21470C06	Light System Diagnosis and Repair	3.50	T
21470C07	Gauges and Warning Devices Diagnosis and Repair	3.50	T
21470C08	Related Systems Diagnosis and repair	3.50	T
21470C09	Automotive Electrical System diagnosis and Repair	7.00	T
21470C10	Job Knowledge Test	3.50	E
21470C11	Electrical JPT	7.00	E
Annex Total :		52.50	
ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS			
21470D01	Hydraulic Fundamentals	7.00	T
21470D02	Hydraulic Schematic Analysis	3.50	T
21470D03	Hydraulics System Diagnosis an Repair	3.50	T
21470D04	Hydraulic Fan Motor System Diagnosis and Repair	3.50	T

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ACADEMIC SUMMARY

IDENTIFIER	TITLE	HRS	TYPE
21470D05	Hydraulic Winch System Diagnosis and Repair	7.00	T
21470D06	Steering System Diagnosis and Repair	3.50	T
21470D07	Compressed Air Theory/Schematics	3.50	T
21470D08	Compressed Air System Diagnosis and Repair	3.50	T
21470D09	Brake System Diagnosis and Repair	7.00	T
21470D10	JKT Hydraulics/Compressed Air/Brakes	3.50	E
21470D11	JPT Hydraulics/Compressed Air/Brakes	7.00	E

Annex Total : 52.50

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

21470E01	Introduction to Drive Train, Steering and Suspension Systems	3.50	T
21470E02	Power Train Diagnosis and Repair	10.50	T
21470E03	Steering/Suspension System Diagnosis and Repair	10.50	T
21470E04	JKT Drive Train, Steering and Suspension	3.50	E

Annex Total : 28.00

ANNEX F - DIESEL ENGINE

21470F01	Fundamentals of Diesel Engines/Overview	7.00	T
21470F02	General Engine Diagnosis and Repair	7.00	T
21470F03	Lubrication and Cooling System Theory/Troubleshooting	2.25	T
21470F04	Air Induction Theory	2.25	T
21470F05	Fuel System Theory/Troubleshooting	2.50	T
21470F06	JKT Diesel Engine/Cooling/Fuel/Air Induction	3.50	E
21470F07	Engine Tune Up	14.00	T
21470F08	JPT Engine Tune Up	3.50	E

Annex Total : 42.00

ANNEX G - ANNUAL SCHEDULED PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

21470G01	Annual Scheduled Preventative Maintenance Checks and Services (PMCS)	21.00	T
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Annex Total : 21.00

ANNEX H - LAV-R OPERATION AND FINAL EXAM

21470H01	Final Exam (JKT)	3.50	E
21470H02	Final Exam JPT	10.50	E
21470H03	License Exam (JKT)	2.00	E
21470H04	Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization	10.50	T
21470H05	Auxiliary Systems Diagnosis and Repair	7.00	T
21470H06	LAV-R Operate	9.00	T
21470H07	After Checks PMCS	6.50	LP

Annex Total : 49.00

Total Academic Hours : 301.00

LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

SECTION IV - CONCEPT CARDS

ACADEMIC SUMMARY

IDENTIFIER	TITLE	HRS	TYPE
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LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

SECTION IV - CONCEPT CARDS

ADMINISTRATIVE SUMMARY

IDENTIFIER	TITLE	HRS	TYPE
ANNEX Z - ADMINISTRATIVE			
21470Z01	In Processing	8.00	ADM
21470Z02	Out Processing	8.00	ADM
21470Z03	Commanders Time	43.00	ADM

Total Administrative Hours : 59.00

Total POI Hours : 360.00

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA01

HOURS: 0.50

TITLE: Course Introduction

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.50	8:1

MEDIA: CPU, PPP

LESSON PURPOSE:

This class will cover a general overview of the course content, testing procedures including the end of course exam, and initial counseling.



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA02

HOURS: 0.50

TITLE: Maintenance Management Overview

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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L	0.50	8:1
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MEDIA: CPU, PPP

LESSON PURPOSE:

This is a 1 hour period of instruction with 30 minutes on TD-2 and 30 minutes on TD-5. The purpose is to give the basic student some insight as to how maintenance management of ground ordnance equipment is conducted within the Marine Corps, what maintenance is, the elements of maintenance, maintenance management sub systems, and the categories of maintenance.

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA03

HOURS: 6.00

TITLE: Marine Corps Publications

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.50	8:1
PA	4.50	8:1

MEDIA: AIO, CPU, HO, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common maintenance procedures, in accordance with the references. (2147.05.07)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the types of publications, in accordance with the references. (2147.05.07a)
2. Given applicable resources, identify when the types of publications would be used, in accordance with the references. (2147.05.07b)
3. Given applicable resources, locate specific publications, in accordance with the references. (2147.05.07c)
4. Given applicable resources, explain the elements of a technical manual, in accordance with the references. (2147.05.07d)
5. Given applicable resources, locate task in publications, in accordance with the references. (2147.05.07e)
6. Given applicable resources, identify how to locate repair parts, in accordance with the references. (2147.05.07f)
7. Given applicable resources, use source, maintenance and recoverability codes to request maintenance and dispose of repair parts, in accordance with the references. (2147.05.07g)
8. Given applicable resources, identify the purpose of the NAVMC form 10772, in accordance with the references. (2147.05.07h)

REFERENCE

REFERENCE #

1. Table of Marine Corps Ground Equipment Resource Reporting (MCGERR)

MCBUL 3000

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA03

HOURS: 6.00

TITLE: Marine Corps Publications

- |   |               |
|---|---------------|
| 2. MIMMS Field Procedures Manual                  | MCO P4790.2_  |
| 3. The Marine Corps Technical Publications System | MCO P5215.17  |
| 4. Stock List 1-2                                 | SL-1-2        |
| 5. Stock List 1-3                                 | SL-1-3        |
| 6. Ground Equipment Records Procedures            | TM 4700-15/1_ |
| 7. MIMMS AIS Field Maintenance Procedures         | UM 4790-5     |
| 8. Publication Library Management System          | UM-PLMS       |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA04

HOURS: 9.00

TITLE: Maintenance Administration

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
D	1.00	8:1
L	3.00	8:1
PA	5.00	8:1

MEDIA: AIO, CPU, HO, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common maintenance procedures, in accordance with the references. (2147.05.07)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, complete selected NAVMC forms, in accordance with the references. (2147.05.07o)

REFERENCE

REFERENCE #

- |   |               |
|---|---------------|
| 1. Consumer Level Supply Policy Manual    | MCO P4400.150 |
| 2. MIMMS Field Procedures Manual          | MCO P4790.2_  |
| 3. Stock List 1-2                         | SL-1-2        |
| 4. Stock List 1-3                         | SL-1-3        |
| 5. Ground Equipment Records Procedures    | TM 4700-15/1_ |
| 6. MIMMS AIS Field Maintenance Procedures | UM 4790-5     |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA05

HOURS: 1.00

TITLE: Modifications

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.50	8:1
PA	0.50	8:1

MEDIA: CPU, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common maintenance procedures, in accordance with the references. (2147.05.07)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, state the types of modification categories, in accordance with the references. (2147.05.07l)
2. Given applicable resources, identify equipment requiring modification, in accordance with the references. (2147.05.07m)
3. Given applicable resources, complete modification records, in accordance with the references. (2147.05.07n)

REFERENCE

REFERENCE #

- |  |               |
|--|---------------|
| 1. Applicable Equipment Modification Instruction | APPLICABLE MI |
| 2. MIMMS Field Procedures Manual                 | MCO P4790.2_  |
| 3. Test Set Night Vision Sight AN/TAM-3A         | MI-08121-45/1 |
| 4. Ground Equipment Records Procedures           | TM 4700-15/1_ |
| 5. MIMMS AIS Field Maintenance Procedures        | UM 4790-5     |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA06

HOURS: 1.00

TITLE: Calibrations

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.50	8:1
PA	0.50	8:1

MEDIA: CPU, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common maintenance procedures, in accordance with the references. (2147.05.07)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, state the types of calibration, in accordance with the references. (2147.05.07i)
2. Given applicable resources, state when the types of calibration would be used, in accordance with the references. (2147.05.07j)
3. Given applicable resources, identify the TMDE that requires calibration, in accordance with the references. (2147.05.07k)

REFERENCE

REFERENCE #

- |  |               |
|--|---------------|
| 1. Marine Corps Test, Measurement, and Diagnostic Equipment Calibrations and Maintenance Program | MCO 4733.1    |
| 2. Infantry Weapons Gauge Calibration Exchange Program   | TI 4733-15/11 |
| 3. Calibration Requirements Marine Corps TMDE Calibration and Maintenance Program                | TI 4733-15/1_ |
| 4. Ground Equipment Records Procedures   | TM 4700-15/1_ |
| 5. Use and Care of Hand Tools and Measuring Tools  | TM 9-243      |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA07

HOURS: 1.00

TITLE: Shop Safety

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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L	1.00	8:1
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MEDIA: CPU, HO, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common shop procedures, in accordance with the references. (2147.05.06)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the type of personal protective equipment (PPE) required for handling hazardous materials, in accordance with the references. (2147.05.06a)
2. Given applicable resources, identify the proper personal protective equipment (PPE) required when using specific tools, in accordance with the references. (2147.05.06b)
3. Given applicable resources, identify LASER hazards in the work place, in accordance with the references. (2147.05.06c)
4. Given applicable resources, identify radiation hazards in the work place, in accordance with the references. (2147.05.06d)

REFERENCE

REFERENCE #

- |  |               |
|--|---------------|
| 1. Department of Defense Federal Hazard Communication Training Program Students's Workbook | DOD 6050.5-W  |
| 2. Marine Corps Ground Occupational Safety and Health Program                              | MCO 5100.8    |
| 3. Marine Corps Radiation Safety Program   | MCO 5104.3    |
| 4. MIMMS Field Procedures Manual   | MCO P4790.2_  |
| 5. Environmental Compliance and Protection Manual  | MCO P5090.2__ |
| 6. Control of Hazards to Health from Laser Radiation                                       | TB MED 524    |
| 7. Special Handling Considerations Tritium Fire Control                                    | TI 5104-15/2  |
| 8. Use and Care of Hand Tools and Measuring Tools  | TM 9-243      |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA08

HOURS: 1.00

TITLE: Hazard Communication

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
D	0.50	8:1
L	0.50	8:1

MEDIA: CPU, HO, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common shop procedures, in accordance with the references. (2147.05.06)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, utilize material safety data sheets, in accordance with the references. (2147.05.06e)
2. Given applicable resources, respond to a hazardous materials/waste spill in the work place, in accordance with the references. (2147.05.06f)

REFERENCE

REFERENCE #

- |  |              |
|--|--------------|
| 1. Department of Defense Federal Hazard Communication Training Program Students's Workbook | DOD 6050.5-W |
| 2. Marine Corps Ground Occupational Safety and Health Program                              | MCO 5100.8   |
| 3. Environmental Compliance and Protection Manual  | MCO P5090.2_ |



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA09

HOURS: 3.00

TITLE: Common Tools

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
D	1.00	8:1
L	0.50	8:1
PA	1.50	8:1

MEDIA: AIO, CPU, HO, PPP, WB

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common shop procedures, in accordance with the references. (2147.05.06)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, perform preventative maintenance checks and services (PMCS) on tool sets, chest and kits, in accordance with the references. (2147.05.06g)
2. Given applicable resources, conduct inventories on tool sets, chest and kits, in accordance with the references. (2147.05.06h)
3. Given applicable resources, demonstrate the proper use of hand tools, in accordance with the references. (2147.05.06i)

REFERENCE

REFERENCE #

- |   |                 |
|---|-----------------|
| 1. Applicable Stock List SL-3                     | APPLICABLE SL-3 |
| 2. Applicable Equipment Technical Publications    | APPLICABLE TM   |
| 3. Ground Equipment Records Procedures            | TM 4700-15/1_   |
| 4. Use and Care of Hand Tools and Measuring Tools | TM 9-243        |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA10

HOURS: 1.00

TITLE: Troubleshooting

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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L	1.00	8:1
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MEDIA: CPU, PPP, WB

LESSON PURPOSE:

Trouble shooting is taught here to give the students the basic steps and processes that are used in finding and correcting a problem within a particular piece of damaged equipment.

REFERENCE

REFERENCE #

1. Applicable Equipment Technical Publications

APPLICABLE TM

# LIGHT ARMORED VEHICLE REPAIRMAN (2147)

## SECTION IV - CONCEPT CARDS

### ANNEX A - COMMON KNOWLEDGE AND SKILLS

EXAM ID: 21XXAA11

HOURS: 2.00

TITLE: Job Knowledge Test 21XXAA03 Through 21XXAA10

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.10	8:1
X(W)	1.90	8:1

MEDIA: AIO, WB

#### TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common shop procedures, in accordance with the references. (2147.05.06)
2. Given applicable resources, comply with common maintenance procedures, in accordance with the references. (2147.05.07)

#### REFERENCE

#### REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Applicable Equipment Modification Instruction   | APPLICABLE MI   |
| 2. Applicable Stock List SL-3  | APPLICABLE SL-3 |
| 3. Applicable Equipment Technical Publications   | APPLICABLE TM   |
| 4. Department of Defense Federal Hazard Communication Training Program Students's Workbook | DOD 6050.5-W    |
| 5. Federal Logistics Database  | FEDLOG          |
| 6. Table of Marine Corps Ground Equipment Resource Reporting (MCGERR)                      | MCBUL 3000      |
| 7. Marine Corps Ground Occupational Safety and Health Program                              | MCO 5100.8      |
| 8. Marine Corps Radiation Safety Program   | MCO 5104.3      |
| 9. Consumer Level Supply Policy Manual   | MCO P4400.150   |
| 10. MIMMS Field Procedures Manual  | MCO P4790.2_    |
| 11. The Marine Corps Technical Publications System   | MCO P5215.17    |
| 12. Test Set Night Vision Sight AN/TAM-3A  | MI-08121-45/1   |
| 13. Stock List 1-2   | SL-1-2          |
| 14. Stock List 1-3   | SL-1-3          |
| 15. Control of Hazards to Health from Laser Radiation                                      | TB MED 524      |
| 16. Calibration Requirements Marine Corps TMDE Calibration and Maintenance Program         | TI 4733-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

EXAM ID: 21XXAA11

HOURS: 2.00

TITLE: Job Knowledge Test 21XXAA03 Through 21XXAA10

- |  |               |
|--|---------------|
| 17. Special Handling Considerations Tritium Fire Control | TI 5104-15/2  |
| 18. Ground Equipment Records Procedures                  | TM 4700-15/1_ |
| 19. Use and Care of Hand Tools and Measuring Tools       | TM 9-243      |
| 20. MIMMS AIS Field Maintenance Procedures               | UM 4790-5     |
| 21. Publication Library Management System                | UM-PLMS       |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA12

HOURS: 0.50

TITLE: Maintenance Manangement Overview

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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L	0.50	8:1
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MEDIA: CPU, PPP

LESSON PURPOSE:

This is a 1 hour period of instruction with 30 min on TD-2 and 30 min on TD-5. The purpose is to give the basic student some insight as to how maintenance management of ground ordnance equipment is conducted within the Marine Corps, what maintenance is, the elements of maintenance, maintenance management sub systems, and the categories of maintenance.

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX A - COMMON KNOWLEDGE AND SKILLS

LESSON ID: 21XXAA13

HOURS: 0.50

TITLE: Movement to School

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	0.50	8:1

MEDIA: AIO

LESSON PURPOSE:

The Marines will march about 1/2 mile, from Building 3144 to Building 5217 for the next period of instruction. This will be after 21XXAA09.

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B01

HOURS: 1.00

TITLE: LAV Shop Operation/Safety

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common shop procedures, in accordance with the references. (2147.05.06)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, respond to a hazardous materials/waste spill in the work place, in accordance with the references. (2147.05.06f)
2. Given applicable resources, identify hazardous material associated to a LAV maintenance area, in accordance with the references. (2147.05.06j)
3. Given applicable resources, safely operate the bay door, in accordance with the references. (2147.05.06k)
4. Given applicable resources, utilize fire extinguisher, in accordance with the references. (2147.05.06l)
5. Given applicable resources, utilize dry sweep in response to a spill, in accordance with the references. (2147.05.06m)
6. Given applicable resources, perform PMCS on air compressors, in accordance with the references. (2147.05.06n)
7. Given applicable resources, identify the safety precautions and reasoning behind the set-up of a maintenance bay floor, in accordance with the references. (2147.05.06o)
8. Given applicable resources, inspect the maintenance bay area for cleanliness, in accordance with the references. (2147.05.06p)

REFERENCE

REFERENCE #

- |   |                  |
|---|------------------|
| 1. DOD Hazard Communication Program                           | DOD INST 6050.5_ |
| 2. Marine Corps Ground Occupational Safety and Health Program | MCO 5100.8       |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B01

HOURS: 1.00

TITLE: LAV Shop Operation/Safety

3. MIMMS Field Procedures Manual

MCO P4790.2\_



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B02

HOURS: 1.50

TITLE: Toolbox Inventory/Issue

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	1.50	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common shop procedures, in accordance with the references. (2147.05.06)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, conduct a general mechanics toolbox inventory, in accordance with the references. (2147.05.06g)

NOTE(S):

This time is utilized to issue the students their tool boxes, coveralls and hard hats that they will be using through out the rest of the course.

REFERENCE

REFERENCE #

- |   |               |
|---|---------------|
| 1. Marine Corps Stocklist                         | SL-3 00456A   |
| 2. Ground Equipment Records Procedures            | TM 4700-15/1_ |
| 3. Use and Care of Hand Tools and Measuring Tools | TM 9-243      |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B03

HOURS: 3.50

TITLE: Introduction to the Light Armored Vehicle Family of Vehicles

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	2.75	8:1
PA	0.75	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with operating the LAV FOV, in accordance with the references. (2147.01.01a)
2. Given applicable resources, identify the different variants in the LAV FOV, in accordance with the references. (2147.01.01b)
3. Given applicable resources, identify the capabilities of the different variants in the LAV FOV, in accordance with the references. (2147.01.01c)
4. Given applicable resources, identify the common components of the LAV Hull, in accordance with the references. (2147.01.01d)
5. Given applicable resources, identify the procedures to conduct before, during and after operation checks, in accordance with the references. (2147.01.01e)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 2. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 3. LAV-AT Operator Manual              | TM 08652A-10/2  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B04

HOURS: 2.00

TITLE: Ordnance Vehicle Forms and Records

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.50	8:1
PA	1.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, comply with common maintenance procedures, in accordance with the references. (2147.05.07)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, state the purpose of the ordnance vehicle logbook, in accordance with the references. (2147.05.07p)
2. Given applicable resources, state the operators responsibility for logbook entries, in accordance with the references. (2147.05.07q)
3. Given applicable resources, state the mechanics responsibility for logbook entries, in accordance with the references. (2147.05.07r)
4. Given applicable resources, perform logbook entries required for the LAV FOV, in accordance with the references. (2147.05.07s)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 2. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 3. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B05

HOURS: 7.00

TITLE: Operator PMCS

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	6.00	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, perform operator preventative maintenance checks and services (PMCS), in accordance with the references. (2147.01.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the operator PMCS requirements, in accordance with the references. (2147.01.02a)
2. Given applicable resources, make appropriate entries on NAVMC Forms in the ordnance vehicle logbook, in accordance with the references. (2147.01.02b)
3. Given applicable resources, perform LAV FOV lubrication procedures, in accordance with the references. (2147.01.02c)
4. Given applicable resources, identify the classifications of leaks, in accordance with the references. (2147.01.02d)
5. Given applicable resources, identify the procedures for conducting PMCS on communication gear, in accordance with the references. (2147.01.02e)
6. Given applicable resources, perform start up procedures, in accordance with the references. (2147.01.02f)
7. Given applicable resources, perform shut down procedures, in accordance with the references. (2147.01.02g)

REFERENCE

REFERENCE #

- |                                   |                 |
|-----------------------------------|-----------------|
| 1. Lubrication Instruction LAV    | LI 08594A-12/2B |
| 2. Lubrication Instruction LAV-R  | LI 08651-12/A   |
| 3. Lubrication Instruction LAV-AT | LI 08652-12/2A  |
| 4. Deadline Criteria              | TI 2320-15/55_  |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B05

HOURS: 7.00

TITLE: Operator PMCS

- |  |                |
|--|----------------|
| 5. Operator's Manual LAV-25 Turret     | TM 08594A-10/1 |
| 6. LAV Auto/Hull                       | TM 08594A-20/4 |
| 7. LAV Recovery Operator Manual        | TM 08651A-10A  |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_  |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B06

HOURS: 7.00

TITLE: Driving During Day Light Hours

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	7.00	8:3

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with driving the LAV FOV, in accordance with the references. (2147.01.01f)
2. Given applicable resources, drive the LAV during daylight hours, in accordance with the references. (2147.01.01g)
3. Given applicable resources, perform before, during and after operator preventive maintenance checks and services (PMCS), in accordance with the references. (2147.01.01s)
4. Given applicable resources, make appropriate ordnance vehicle logbook entries, in accordance with the references. (2147.01.01t)

NOTE(S):

During this period of instruction students not actively driving will receive instruction in the familiarization of the LAV-25 and LAV-AT turrets. Approximately 1 hour will be spent on each turret by each student.

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Lubrication Instruction LAV         | LI 08594A-12/2B |
| 2. Lubrication Instruction LAV-R       | LI 08651-12/A   |
| 3. Lubrication Instruction LAV-AT      | LI 08652-12/2A  |
| 4. Deadline Criteria                   | TI 2320-15/55_  |
| 5. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 6. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B06

HOURS: 7.00

TITLE: Driving During Day Light Hours

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX B - OPERATION OF THE LAV

LESSON ID: 21470B07

HOURS: 7.00

TITLE: Briggs & Stratton Engine

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	7.00	8:2

MEDIA: AIO

LESSON PURPOSE:

This class is used to instill basic engine fundamentals, concepts and theories of how an engine works, re-enforces the proper use of hand tools and introduce the students to precision measurement tools (Test, Measurement and Diagnostic Equipment{TMDE}). Students will perform all task utilizing technical manuals, thus re-enforcing the proper use in a Practical Application (PA) environment. This lesson is also used to motivate the students by building their confidence in their mechanical abilities as students will completely disassemble, inspect components, reassemble and test the Briggs and Stratton engine.



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C01

HOURS: 7.00

TITLE: Basic Electrical Theory

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	4.00	8:1
PA	3.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify electrical safety hazards, in accordance with the references. (2147.02.01a)
2. Given applicable resources, identify the sources of electricity, in accordance with the references. (2147.02.01b)
3. Given applicable resources, define voltage (electrical pressure), in accordance with the references. (2147.02.01c)
4. Given applicable resources, define amperage (current flow), in accordance with the references. (2147.02.01d)
5. Given applicable resources, define resistance (opposition to electrical flow), in accordance with the references. (2147.02.01e)
6. Given applicable resources, explain relationships of voltage, current, and resistance (Ohm's Law), in accordance with the references. (2147.02.01f)
7. Given applicable resources, use metric terms to identify electrical measurements, in accordance with the references. (2147.02.01g)
8. Given applicable resources, interpret basic terms associated with electricity, in accordance with the references. (2147.02.01h)
9. Given applicable resources, explain the difference between insulators and conductors, in accordance with the references. (2147.02.01i)
10. Given applicable resources, identify the characteristics of a simple circuit, in accordance with the references. (2147.02.01j)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C01

HOURS: 7.00

TITLE: Basic Electrical Theory

11. Given applicable resources, identify the characteristics of a series circuit, in accordance with the references. (2147.02.01k)
12. Given applicable resources, measure voltage with a multimeter, in accordance with the references. (2147.02.01l)
13. Given applicable resources, measure resistance with a multimeter, in accordance with the references. (2147.02.01m)
14. Given applicable resources, measure continuity with a multimeter, in accordance with the references. (2147.02.01n)
15. Given applicable resources, measure current with a multimeter, in accordance with the references. (2147.02.01o)
16. Given applicable resources, identify electrical component characteristics (LEDs, relays, fuses, circuit breakers, transformers, power sources, capacitors, diodes, transistors and solenoids), in accordance with the references. (2147.02.01p)
17. Given applicable resources, identify schematic symbols, in accordance with the references. (2147.02.01q)
18. Given applicable resources, identify characteristics of a parallel circuit, in accordance with the references. (2147.02.01r)
19. Given applicable resources, identify characteristics of a series-parallel circuit, in accordance with the references. (2147.02.01s)
20. Given applicable resources, utilize formulas to calculate total resistance in a given circuit (series, parallel, series-parallel), in accordance with the references. (2147.02.01t)
21. Given applicable resources, utilize formulas to calculate total current in a given circuit (series, parallel, series-parallel), in accordance with the references. (2147.02.01u)
22. Given applicable resources, utilize Kirchoff's Law to calculate voltage drops in a given circuit, in accordance with the references. (2147.02.01v)

REFERENCE

REFERENCE #

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C01

HOURS: 7.00

TITLE: Basic Electrical Theory

1. John Deere Hydraulic Reference Book

JOHN DEERE HYDRAULIC

2. NIDA Test Console/Software

TECH DECK

3. LAV Auto/Hull

TM 08594A-20/4

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C02

HOURS: 7.00

TITLE: Read and Interpret Electrical Schematic Diagrams and Symbols

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	3.00	8:1
PA	4.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, utilize LAV FOV TMs to locate specific schematic diagrams, in accordance with the references. (2147.02.01w)
2. Given applicable resources, describe the path of flow and component functioning of the starting system, in accordance with the references. (2147.02.01x)
3. Given applicable resources, describe the path of flow and component functioning of the charging system, in accordance with the references. (2147.02.01y)
4. Given applicable resources, describe the path of flow and component functioning of the lighting system, in accordance with the references. (2147.02.01z)
5. Given applicable resources, describe the path of flow and component functioning of the gauges and warning devices, in accordance with the references. (2147.02.01aa)
6. Given applicable resources, describe the path of flow and component functioning of the auxiliary system (fuel pumps, bilge pumps, heater, horn, winch, wiper motor, air dryer), in accordance with the references. (2147.02.01ab)

REFERENCE

1. LAV Auto/Hull
2. Principles of Automotive Vehicles

REFERENCE #

TM 08594A-20/4  
TM 9-8000

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C03

HOURS: 3.50

TITLE: Battery Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, explain the characteristics of automotive batteries, in accordance with the references. (2147.02.01ac)
2. Given applicable resources, perform battery test (load and capacitance) to determine needed repairs, in accordance with the references. (2147.02.01ad)
3. Given applicable resources, determine battery state of charge by measuring terminal post voltage using a digital multimeter (DMM), in accordance with the references. (2147.02.01ae)
4. Given applicable resources, identify the LAV FOV battery configurations, in accordance with the references. (2147.02.01af)
5. Given applicable resources, inspect, clean, service, or replace battery and terminal connections, in accordance with the references. (2147.02.01ag)
6. Given applicable resources, inspect, clean, service, or replace battery boxes, mounts and hold downs, in accordance with the references. (2147.02.01ah)
7. Given applicable resources, charge battery using slow or fast charge method as appropriate, in accordance with the references. (2147.02.01ai)
8. Given applicable resources, jump start a vehicle using a slave cable or auxiliary power supply, in accordance with the references. (2147.02.01aj)
9. Given applicable resources, identify the 24 volt battery configuration of the LAV FOV, in accordance with the references. (2147.02.01ak)
10. Given applicable resources, identify the procedures for conducting a parasitic draw

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C03

HOURS: 3.50

TITLE: Battery Diagnosis and Repair

test (key-off battery drain problems), in accordance with the references.  
(2147.02.01a1)

11. Given applicable resources, diagnose parasitic draw problems using a DMM, in accordance with the references. (2147.02.01a1)

REFERENCE

REFERENCE #

- |   |                  |
|---|------------------|
| 1. Light Armored Vehicle LAV-25                     | SL-4-08594A      |
| 2. LAV Auto/Hull                                    | TM 08594A-20/4   |
| 3. Ground Equipment Records Procedures              | TM 4700-15/1_    |
| 4. Maintenance Manual for Lead-Acid Storage Battery | TM 9-6140-200-14 |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C04

HOURS: 3.50

TITLE: Starter System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, on the vehicle, trace the path of flow from the power source to the starter, and back to ground, in accordance with the references. (2147.02.01an)
2. Given applicable resources, on the vehicle, trace the path of flow from the power source to the starter relay, and back to ground, in accordance with the references. (2147.02.01ao)
3. Given applicable resources, perform start-up procedures, in accordance with the references. (2147.02.01ap)
4. Given applicable resources, perform starter circuit voltage drop test to determine needed repairs, in accordance with the references. (2147.02.01aq)
5. Given applicable resources, perform starter circuit amperage draw tests to determine needed repairs, in accordance with the references. (2147.02.01ar)
6. Given applicable resources, inspect, test and replace components (ignition switch, push button, and/or magnetic switch) and wires in the starter control circuit, in accordance with the references. (2147.02.01as)
7. Given applicable resources, inspect, test and replace starter relays and solenoids/switches, in accordance with the references. (2147.02.01at)
8. Given applicable resources, remove and replace starter; inspect flywheel ring gear or flex plate, in accordance with the references. (2147.02.01au)
9. Given applicable resources, inspect, clean, repair, and replace battery cables and connectors in the cranking circuit, in accordance with the references. (2147.02.01av)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C04

HOURS: 3.50

TITLE: Starter System Diagnosis and Repair

10. Given applicable resources, differentiate between electrical and mechanical problems that cause a slow crank, no crank, extended cranking, or a cranking noise condition, in accordance with the references. (2147.02.01aw)

NOTE(S):

The starter will be removed, bench tested, and replaced during power pack removal.

REFERENCE

REFERENCE #

- |  |                    |
|--|--------------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A        |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B    |
| 3. LAV Auto/Hull                       | TM 08594A-20/4     |
| 4. Starter, Engine, Electrical         | TM 08594A-34&P/10A |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_      |



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C05

HOURS: 3.50

TITLE: Charging System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, on the vehicle, trace alternator excitation control path of flow from power source to ground, in accordance with the references. (2147.02.01ax)
2. Given applicable resources, on the vehicle, trace charging system path of flow from the alternator to batteries, in accordance with the references. (2147.02.01ay)
3. Given applicable resources, diagnose dash mounted charge meters and/or indicator lights that show a no charge, low charge, or overcharge condition to determine needed repairs, in accordance with the references. (2147.02.01az)
4. Given applicable resources, diagnose the cause of a no charge, low charge, or overcharge condition to determine needed repairs, in accordance with the references. (2147.02.01ba)
5. Given applicable resources, inspect, adjust, and replace alternator drive belts/gears, pulleys, fans, mounting brackets, and tensioners, in accordance with the references. (2147.02.01bb)
6. Given applicable resources, perform charging system output test to determine needed repairs, in accordance with the references. (2147.02.01bc)
7. Given applicable resources, perform charging circuit voltage drop test to determine needed repairs, in accordance with the references. (2147.02.01bd)
8. Given applicable resources, remove and replace alternator, in accordance with the references. (2147.02.01be)
9. Given applicable resources, inspect, repair, or replace connectors and wires in the charging circuit, in accordance with the references. (2147.02.01bf)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C05

HOURS: 3.50

TITLE: Charging System Diagnosis and Repair

NOTE(S):

The alternator will be removed and installed during the power pack removal and installation.

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C06

HOURS: 3.50

TITLE: Light System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, on the vehicle, trace service drive lights circuit (headlights, brake lights, taillights and turn signals) from the power source to ground, in accordance with the references. (2147.02.01bg)
2. Given applicable resources, on the vehicle, trace blackout drive lights circuit from the power source to ground, in accordance with the references. (2147.02.01bh)
3. Given applicable resources, on the vehicle, trace dome lights circuit from the power source to ground, in accordance with the references. (2147.02.01bi)
4. Given applicable resources, diagnose the cause of brighter than normal, intermittent, dim, or no light in lighting circuit, in accordance with the references. (2147.02.01bj)
5. Given applicable resources, test, repair, and replace headlight and dimmer switches, wires, connectors, terminals, sockets, relays, and control components, in accordance with the references. (2147.02.01bk)
6. Given applicable resources, inspect, test, repair, and replace switches, bulbs, sockets, connectors, terminals, relays, wires, and light-emitting diodes (LEDs) of service drive lighting circuits, in accordance with the references. (2147.02.01bl)
7. Given applicable resources, inspect, test, repair, or replace instrument panel circuit switches, bulbs, sockets, connectors, terminals, wires, and printed circuit cards, in accordance with the references. (2147.02.01bm)
8. Given applicable resources, inspect, test, repair, or replace dome light circuit switches, bulbs, sockets, connectors, terminals, and wires, in accordance with the references. (2147.02.01bn)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C06

HOURS: 3.50

TITLE: Light System Diagnosis and Repair

9. Given applicable resources, inspect, test, repair, or replace blackout drive light circuit switches, bulbs, sockets, connectors, terminals, and wires, in accordance with the references. (2147.02.01bo)
10. Given applicable resources, inspect, test, repair, or replace stop light circuit switches, bulbs, sockets, connectors, terminals, and wires, in accordance with the references. (2147.02.01bp)
11. Given applicable resources, diagnose the cause of turn signal and hazard flasher light malfunctions to determine needed repairs, in accordance with the references. (2147.02.01bq)
12. Given applicable resources, inspect, test, repair, or replace turn signal and hazard circuit flashers, switches, bulbs, sockets, connectors, terminals, wires, and light-emitting diodes (LEDs), in accordance with the references. (2147.02.01br)
13. Given applicable resources, inspect and test trailer light power connector and determine needed repairs, in accordance with the references. (2147.02.01bs)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C07

HOURS: 3.50

TITLE: Gauges and Warning Devices Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, diagnose the cause of intermittent, high, low, or no gauge readings, determine needed repairs (does not include charge indicators), in accordance with the references. (2147.02.01bt)
2. Given applicable resources, diagnose the cause of data bus driven gauge malfunctions to determine needed repair, in accordance with the references. (2147.02.01bu)
3. Given applicable resources, inspect, test, adjust, repair, or replace gauge circuit sending units, sensors, gauges, connectors, terminals and wires, in accordance with the references. (2147.02.01bv)
4. Given applicable resources, inspect, test, adjust, repair, or replace warning devices (lights and audible) circuit sending units, sensors, bulbs, audible component, sockets, connectors, terminals, wires and printed circuits/control modules, in accordance with the references. (2147.02.01bw)
5. Given applicable resources, inspect, test and replace electronic speedometer, odometer, tachometer and heads-up display systems to verify proper calibration for vehicle application, in accordance with the references. (2147.02.01bx)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C08

HOURS: 3.50

TITLE: Related Systems Diagnosis and repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, diagnose the cause of constant, intermittent or no operation of the fuel pumps, in accordance with the references. (2147.02.01by)
2. Given applicable resources, inspect, test, repair or replace fuel system pumps, switches, connectors, terminal, fuses and wires, in accordance with the references. (2147.02.01bz)
3. Given applicable resources, inspect, test, repair or replace bilge pumps, switches, connectors, terminal, fuses and wires, in accordance with the references. (2147.02.01ca)
4. Given applicable resources, diagnose the cause of constant, intermittent or no operation of the bilge pump, in accordance with the references. (2147.02.01cb)
5. Given applicable resources, diagnose the cause of constant, intermittent or no operation of the winch, in accordance with the references. (2147.02.01cc)
6. Given applicable resources, inspect, test, repair or replace winch, switches, connectors, terminal, fuses and wires, in accordance with the references. (2147.02.01cd)
7. Given applicable resources, diagnose the cause of constant, intermittent or no operation of the crew heater, in accordance with the references. (2147.02.01ce)
8. Given applicable resources, inspect, test, repair or replace crew heater, switches, connectors, terminal, fuses and wires, in accordance with the references. (2147.02.01cf)
9. Given applicable resources, diagnose the cause of constant, intermittent, or no horn operation, in accordance with the references. (2147.02.01cg)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C08

HOURS: 3.50

TITLE: Related Systems Diagnosis and repair

10. Given applicable resources, inspect, test, repair, or replace horn circuit relays, horns, switches, connectors, terminals and wires, in accordance with the references. (2147.02.01ch)
11. Given applicable resources, diagnose the cause of constant, intermittent, or no wiper operation to determine the cause of wiper speed control and/or park problems, in accordance with the references. (2147.02.01ci)
12. Given applicable resources, inspect, test, repair, or replace wiper motor resistors, relays, switches, connectors, terminals and wires, in accordance with the references. (2147.02.01cj)
13. Given applicable resources, inspect and replace wiper motor, arms and blades, in accordance with the references. (2147.02.01ck)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

LESSON ID: 21470C09

HOURS: 7.00

TITLE: Automotive Electrical System diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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PA	7.00	8:2
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MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, diagnose/repair battery system, in accordance with the references. (2147.02.01cl)
2. Given applicable resources, diagnose/repair starter system, in accordance with the references. (2147.02.01cm)
3. Given applicable resources, diagnose/repair charging system, in accordance with the references. (2147.02.01cn)
4. Given applicable resources, diagnose/repair lighting system, in accordance with the references. (2147.02.01co)
5. Given applicable resources, diagnose/repair gauges system/ warning, in accordance with the references. (2147.02.01cp)
6. Given applicable resources, diagnose/repair related systems, in accordance with the references. (2147.02.01cq)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

EXAM ID: 21470C10

HOURS: 3.50

TITLE: Job Knowledge Test

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(W)	3.25	8:1

MEDIA: HO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. LAV-R Stock List                    | SL-4 08561A     |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 3. Operator's Manual LAV-25 Turret     | TM 08594A-10/1  |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 5. LAV Auto/Hull                       | TM 08594A-20/4  |
| 6. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 7. Light Armored Vehicle-Recovery      | TM 08651A-20/4  |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX C - AUTOMOTIVE ELECTRICAL SYSTEMS

EXAM ID: 21470C11

HOURS: 7.00

TITLE: Electrical JPT

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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X(P)	7.00	8:2
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MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. LAV-R Stock List                    | SL-4 08561A     |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 3. Operator's Manual LAV-25 Turret     | TM 08594A-10/1  |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 5. LAV Auto/Hull                       | TM 08594A-20/4  |
| 6. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 7. Light Armored Vehicle-Recovery      | TM 08651A-20/4  |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D01

HOURS: 7.00

TITLE: Hydraulic Fundamentals

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	7.00	8:1

MEDIA: CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify hydraulic safety hazards, in accordance with the references. (2147.02.02a)
2. Given applicable resources, identify the 8 principles of hydraulics, in accordance with the references. (2147.02.02b)
3. Given applicable resources, identify the functions of the different types of pumps, in accordance with the references. (2147.02.02c)
4. Given applicable resources, explain the functions of a hydraulic reservoir, in accordance with the references. (2147.02.02d)
5. Given applicable resources, explain the functioning of a hydraulic manifold, in accordance with the references. (2147.02.02e)
6. Given applicable resources, identify the functions of the different types of valves, in accordance with the references. (2147.02.02f)
7. Given applicable resources, identify the functions of the different types of hydraulic cylinders, in accordance with the references. (2147.02.02g)
8. Given applicable resources, identify the functions of the different types of hydraulic motors, in accordance with the references. (2147.02.02h)
9. Given applicable resources, identify the functions of the different types of hydraulic oil coolers, in accordance with the references. (2147.02.02i)
10. Given applicable resources, identify the functions of the different types of hydraulic filters, in accordance with the references. (2147.02.02j)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D01

HOURS: 7.00

TITLE: Hydraulic Fundamentals

11. Given applicable resources, identify the different types and functions of hoses, pipes and fittings, in accordance with the references. (2147.02.02k)
12. Given applicable resources, identify the purpose of hydraulic seals, in accordance with the references. (2147.02.02l)
13. Given applicable resources, identify the purpose/functioning of hydraulic power steering gears, in accordance with the references. (2147.02.02m)

REFERENCE

REFERENCE #

1. John Deere Hydraulic Reference Book

JOHN DEERE HYDRAULIC

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D02

HOURS: 3.50

TITLE: Hydraulic Schematic Analysis

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify hydraulic schematic symbols, in accordance with the references. (2147.02.02n)
2. Given applicable resources, interpret hydraulic schematics to determine paths of flow, in accordance with the references. (2147.02.02o)
3. Given applicable resources, describe path of flow, and component functioning of the cooling fan motor system, in accordance with the references. (2147.02.02p)
4. Given applicable resources, describe path of flow, and component functioning of the winch system, in accordance with the references. (2147.02.02q)
5. Given applicable resources, describe path of flow, and component functioning of the power steering system, in accordance with the references. (2147.02.02r)

REFERENCE

REFERENCE #

- |  |                |
|--|----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A    |
| 2. LAV Auto/Hull                       | TM 08594A-20/4 |
| 3. Light Armored Vehicle LAV-25        | TM 08594A-34/9 |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_  |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D03

HOURS: 3.50

TITLE: Hydraulics System Diagnosis an Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, pressure test a hydraulic system and check for leaks, in accordance with the references. (2147.02.02s)
2. Given applicable resources, conduct a flow test using a flow meter, in accordance with the references. (2147.02.02t)
3. Given applicable resources, inspect, clean and explain how to replace hydraulic system reservoirs, in accordance with the references. (2147.02.02u)
4. Given applicable resources, inspect, clean and explain how to replace hydraulic system lines, hoses and fittings, in accordance with the references. (2147.02.02v)
5. Given applicable resources, inspect, test and replace hydraulic system oil cooler, in accordance with the references. (2147.02.02w)
6. Given applicable resources, inspect and replace hydraulic system filter, in accordance with the references. (2147.02.02x)
7. Given applicable resources, inspect, test and replace hydraulic system filter by-pass valves, in accordance with the references. (2147.02.02y)

REFERENCE

REFERENCE #

- |  |                |
|--|----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A    |
| 2. LAV Auto/Hull                       | TM 08594A-20/4 |
| 3. Light Armored Vehicle LAV-25        | TM 08594A-34/9 |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_  |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D03

HOURS: 3.50

TITLE: Hydraulics System Diagnosis an Repair

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D04

HOURS: 3.50

TITLE: Hydraulic Fan Motor System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO, CPU, MU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, on the vehicle trace the path of flow from the reservoir to the fan motor and back to the reservoir, in accordance with the references. (2147.02.02z)
2. Given applicable resources, perform a flow test for minimum/maximum pump displacement under normal operating conditions, in accordance with the references. (2147.02.02aa)
3. Given applicable resources, perform a RPM test on the fan motor, in accordance with the references. (2147.02.02ab)
4. Given applicable resources, inspect, test and replace hydraulic chassis pump compensator, in accordance with the references. (2147.02.02ac)
5. Given applicable resources, inspect, adjust, and replace chassis hydraulic pump, drive belt, pulleys, mounting brackets and tensioners, in accordance with the references. (2147.02.02ad)
6. Given applicable resources, diagnose fan motor not turning, sluggish operation or over speed, in accordance with the references. (2147.02.02ae)
7. Given applicable resources, determine the cause of a hydraulic fan motor failure, in accordance with the references. (2147.02.02af)

REFERENCE

REFERENCE #

- |                                 |                |
|---------------------------------|----------------|
| 1. Light Armored Vehicle LAV-25 | SL-4-08594A    |
| 2. LAV Auto/Hull                | TM 08594A-20/4 |
| 3. Light Armored Vehicle LAV-25 | TM 08594A-34/9 |



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D04

HOURS: 3.50

TITLE: Hydraulic Fan Motor System Diagnosis and Repair

4. Ground Equipment Records Procedures

TM 4700-15/1\_

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D05

HOURS: 7.00

TITLE: Hydraulic Winch System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	6.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with operating the winch, in accordance with the references. (2147.02.02ag)
2. Given applicable resources, on a vehicle trace the path of flow from hydraulic reservoir to the winch motor and back to the reservoir, in accordance with the references. (2147.02.02ah)
3. Given applicable resources, operate hydraulic winch, in accordance with the references. (2147.02.02ai)
4. Given applicable resources, pressure test the hydraulic winch system and test for leaks, in accordance with the references. (2147.02.02aj)
5. Given applicable resources, inspect, and replace hydraulic winch system lines, hoses, and fittings, in accordance with the references. (2147.02.02ak)
6. Given applicable resources, conduct a flow meter test on the winch system motor, in accordance with the references. (2147.02.02al)
7. Given applicable resources, test the pressure compensation of the winch system chassis pump, in accordance with the references. (2147.02.02am)
8. Given applicable resources, inspect, test operation , repair or replace electrical shift solenoids, wiring harnesses and switches, in accordance with the references. (2147.02.02an)
9. Given applicable resources, diagnose hydraulic winch system motor not turning, not changing direction, slow operation, and low power (pulling), in accordance with the references. (2147.02.02ao)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D05

HOURS: 7.00

TITLE: Hydraulic Winch System Diagnosis and Repair

10. Given applicable resources, diagnose internal winch brake problems, in accordance with the references. (2147.02.02ap)

REFERENCE

REFERENCE #

- |  |                |
|--|----------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A    |
| 2. LAV Auto/Hull                       | TM 08594A-20/4 |
| 3. Light Armored Vehicle LAV-25        | TM 08594A-34/9 |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_  |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D06

HOURS: 3.50

TITLE: Steering System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	2.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, on the vehicle, trace the path of flow from the reservoir to the power steering gearbox and back to the reservoir, in accordance with the references. (2147.02.02aq)
2. Given applicable resources, pressure test the hydraulic steering system and test for leaks, in accordance with the references. (2147.02.02ar)
3. Given applicable resources, inspect, test, and replace hydraulic steering system lines, hoses, and fittings, in accordance with the references. (2147.02.02as)
4. Given applicable resources, inspect, test, and replace hydraulic steering system power steering pump, in accordance with the references. (2147.02.02at)
5. Given applicable resources, inspect, test, and replace hydraulic steering system double acting cylinder, in accordance with the references. (2147.02.02au)
6. Given applicable resources, inspect, test, and replace hydraulic steering system power steering gearbox, in accordance with the references. (2147.02.02av)
7. Given applicable resources, perform the steering gearbox pressure limitations testing, in accordance with the references. (2147.02.02aw)
8. Given applicable resources, diagnose hydraulic power steering pump to determine needed repairs, in accordance with the references. (2147.02.02ax)

REFERENCE

1. Light Armored Vehicle LAV-25
2. LAV Auto/Hull

REFERENCE #

SL-4-08594A  
TM 08594A-20/4

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D06

HOURS: 3.50

TITLE: Steering System Diagnosis and Repair

3. Light Armored Vehicle LAV-25

TM 08594A-34/9

4. Ground Equipment Records Procedures

TM 4700-15/1\_

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D07

HOURS: 3.50

TITLE: Compressed Air Theory/Schematics

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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L	3.50	8:1
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MEDIA: CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain pneumatic system, in accordance with the references. (2147.02.03)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify pneumatic system hazards, in accordance with the references. (2147.02.03a)
2. Given applicable resources, identify the components of the pneumatic system, in accordance with the references. (2147.02.03b)
3. Given applicable resources, identify the theory of operation of the pneumatic system, in accordance with the references. (2147.02.03c)
4. Given applicable resources, interpret schematic diagrams, in accordance with the references. (2147.02.03d)
5. Given applicable resources, utilize schematic diagrams to determine system path of flow, in accordance with the references. (2147.02.03e)

REFERENCE

REFERENCE #

- |  |                      |
|--|----------------------|
| 1. John Deere Hydraulic Reference Book | JOHN DEERE HYDRAULIC |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A          |
| 3. LAV Auto/Hull                       | TM 08594A-20/4       |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9       |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_        |
| 6. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1     |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D08

HOURS: 3.50

TITLE: Compressed Air System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	3.50	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain pneumatic system, in accordance with the references. (2147.02.03)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, on the vehicle, trace the path of flow from the compressor to the service brakes, trim vain cylinder, shift cylinder, seat adjustment cylinder, winch free spool brake release, and parking brake, in accordance with the references. (2147.02.03f)
2. Given applicable resources, check air system build-up time; determine needed repairs, in accordance with the references. (2147.02.03g)
3. Given applicable resources, drain air reservoirs tanks, check for oil, water, and foreign material; determine needed repairs, in accordance with the references. (2147.02.03h)
4. Given applicable resources, inspect, time, and replace compressor, oil supply, hoses, fittings and mounting brackets, in accordance with the references. (2147.02.03i)
5. Given applicable resources, inspect, repair, or replace air compressor, oil supply, water lines, hoses, fittings and mounting brackets, in accordance with the references. (2147.02.03j)
6. Given applicable resources, inspect, test, adjust, and replace system pressure controls (governor/relief valve), unloader assembly, lines, hoses, and fittings, in accordance with the references. (2147.02.03k)
7. Given applicable resources, inspect, repair, or replace air system lines, hoses, fittings, and couplings, check for proper routing, in accordance with the references. (2147.02.03l)
8. Given applicable resources, inspect, test, clean, and replace air tank relief (pop-off) valves, check valves, drain cocks, wiring and connectors, in accordance with the references. (2147.02.03m)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D08

HOURS: 3.50

TITLE: Compressed Air System Diagnosis and Repair

9. Given applicable resources, inspect, test, clean, repair, or replace air drier systems, filters, valves, heaters, wiring, and connectors, in accordance with the references. (2147.02.03n)
10. Given applicable resources, inspect, test, clean, repair, or replace brake application (foot) valve, fittings and mounts, adjust check pedal operation and adjust linkages as equipped, in accordance with the references. (2147.02.03o)
11. Given applicable resources, inspect, test, and replace two-way (double) check valves, in accordance with the references. (2147.02.03p)
12. Given applicable resources, inspect, test,, repair, or replace stop and parking brake light circuit switched, wiring, and connectors, in accordance with the references. (2147.02.03q)
13. Given applicable resources, inspect, test,, repair, or replace hand brake (trailer) control valve, lines, hoses, fittings, and mountings, in accordance with the references. (2147.02.03r)
14. Given applicable resources, inspect, test, and replace quick release valves, in accordance with the references. (2147.02.03s)
15. Given applicable resources, inspect, test, and replace inversion/emergency (spring) brake control valve(s), in accordance with the references. (2147.02.03t)
16. Given applicable resources, inspect, test, and replace low pressure warning devices, in accordance with the references. (2147.02.03u)
17. Given applicable resources, inspect, test, and replace air pressure gauges, lines, hoses, and fittings, and pressure sensors (transducers), in accordance with the references. (2147.02.03v)
18. Given applicable resources, inspect, test and replace hand control valves, in accordance with the references. (2147.02.03w)
19. Given applicable resources, inspect, test and replace cylinders, in accordance with the references. (2147.02.03x)
20. Given applicable resources, inspect, test and replace winch free spool brake control, in accordance with the references. (2147.02.03y)



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D08

HOURS: 3.50

TITLE: Compressed Air System Diagnosis and Repair

REFERENCE

REFERENCE #

- |  |                  |
|--|------------------|
| 1. Light Armored Vehicle LAV-25        | SL-4-08594A      |
| 2. LAV Auto/Hull                       | TM 08594A-20/4   |
| 3. Light Armored Vehicle LAV-25        | TM 08594A-34/9   |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_    |
| 5. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1 |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D09

HOURS: 7.00

TITLE: Brake System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	2.00	8:1
PA	5.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain brake system, in accordance with the references. (2147.02.04)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with brake system repair, in accordance with the references. (2147.02.04a)
2. Given applicable resources, describe the path of flow and components functioning of the brake system, in accordance with the references. (2147.02.04b)
3. Given applicable resources, explain the theory of operation of a brake system, in accordance with the references. (2147.02.04c)
4. Given applicable resources, describe the theory of operation of the LAV FOV air/hydraulic brake system, in accordance with the references. (2147.02.04d)
5. Given applicable resources, describe the path of flow of the LAV FOV air/hydraulic brake system, in accordance with the references. (2147.02.04e)
6. Given applicable resources, explain the components functions of the LAV FOV air/hydraulic brake system, in accordance with the references. (2147.02.04f)
7. Given applicable resources, diagnose poor stopping, premature wear, brake noise, air leaks, pulling, grabbing, or dragging problems caused by supply and service system malfunctions; determine needed repairs, in accordance with the references. (2147.02.04g)
8. Given applicable resources, check air system build-up time to determine needed repairs, in accordance with the references. (2147.02.04h)
9. Given applicable resources, drain air reservoir tanks, check for oil, water and foreign material to determine needed repairs, in accordance with the references. (2147.02.04i)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D09

HOURS: 7.00

TITLE: Brake System Diagnosis and Repair

10. Given applicable resources, inspect, repair, or replace air compressor, oil supply, water lines, hoses, fittings and mounting brackets, in accordance with the references. (2147.02.04j)
11. Given applicable resources, inspect, test, adjust and replace system pressure controls (governor/relief valve), unloader assembly, lines, hoses, and fittings, in accordance with the references. (2147.02.04k)
12. Given applicable resources, inspect, repair, or replace air system lines, hoses, fittings and couplings, check for proper routing, in accordance with the references. (2147.02.04l)
13. Given applicable resources, inspect, test, clean and replace air tank relief (pop-off) valves, check valves, drain cocks, automatic drain (spitter) valves, heaters, wiring, and connectors, in accordance with the references. (2147.02.04m)
14. Given applicable resources, inspect, test, clean repair or replace air drier systems, filters, valves, heaters, wiring, and connectors, in accordance with the references. (2147.02.04n)
15. Given applicable resources, inspect, test, repair, or replace brake application (foot) valve, fittings, and mounts, adjust check pedal operation and adjust linkages as equipped, in accordance with the references. (2147.02.04o)
16. Given applicable resources, inspect, test, and replace two-way (double) check valves and anti-compounding valves, in accordance with the references. (2147.02.04p)
17. Given applicable resources, inspect, test, repair, or replace hand brake (trailer) control valve, lines, hoses, fittings, and mountings, in accordance with the references. (2147.02.04q)
18. Given applicable resources, inspect, test, and replace inversion/emergency (spring) brake control valve(s), in accordance with the references. (2147.02.04r)
19. Given applicable resources, inspect, test, and replace low pressure warning devices, in accordance with the references. (2147.02.04s)
20. Given applicable resources, inspect, test, and replace air pressure gauges, lines, hoses, and fittings, and pressure sensors (transducers) in accordance with the references. (2147.02.04t)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D09

HOURS: 7.00

TITLE: Brake System Diagnosis and Repair

21. Given applicable resources, determine if an air brake system problem is caused by the trailer supply or service system components, in accordance with the references. (2147.02.04u)
22. Given applicable resources, inspect and test parking (spring) brake chamber, diaphragm, and seals, replace parking (spring) brake chamber, Dispose of removed chambers in accordance with local regulations, in accordance with the references. (2147.02.04v)
23. Given applicable resources, inspect, test, and replace parking (spring) brake check valves, lines, hoses, and fittings, in accordance with the references. (2147.02.04w)
24. Given applicable resources, inspect, test, and replace parking (spring) brake application and release valves, in accordance with the references. (2147.02.04x)
25. Given applicable resources, diagnose poor stopping, pulling, premature wear, noise, or dragging complaints caused by hydraulic system problems to determine needed repairs, in accordance with the references. (2147.02.04y)
26. Given applicable resources, pressure test hydraulic system and inspect for leaks, in accordance with the references. (2147.02.04z)
27. Given applicable resources, check and adjust brake system push rod length, in accordance with the references. (2147.02.04aa)
28. Given applicable resources, inspect, test, and replace brake lines, flexible hoses, and fittings, in accordance with the references. (2147.02.04ab)
29. Given applicable resources, inspect, test, and replace master cylinder, in accordance with the references. (2147.02.04ac)
30. Given applicable resources, inspect, test, and replace metering (hold-off), load sensing/proportioning, proportioning, and combination valves, in accordance with the references. (2147.02.04ad)
31. Given applicable resources, inspect, test, repair, or replace brake pressure differential valve and warning light circuit switch, bulbs, wiring, and connectors, in accordance with the references. (2147.02.04ae)
32. Given applicable resources, inspect, clean, and replace wheel cylinders, in accordance with the references. (2147.02.04af)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

LESSON ID: 21470D09

HOURS: 7.00

TITLE: Brake System Diagnosis and Repair

33. Given applicable resources, inspect/test brake fluid, bleed and/or flush system to determine proper fluid type, in accordance with the references. (2147.02.04ag)
34. Given applicable resources, diagnose poor stopping, brake noise, premature wear, pulling, grabbing, dragging, or pedal feel complaints caused by drum and disc brake mechanical assembly problems to determine needed repairs, in accordance with the references. (2147.02.04ah)
35. Given applicable resources, inspect, or replace brake drums, in accordance with the references. (2147.02.04ai)
36. Given applicable resources, inspect, adjust, and replace drum brake shoes/linings, mounting hardware, adjuster mechanisms, and backing plates, in accordance with the references. (2147.02.04aj)
37. Given applicable resources, test, adjust, and replace brake stop light switch, bulbs, wiring, and connectors, in accordance with the references. (2147.02.04ak)

REFERENCE

REFERENCE #

- |  |                      |
|--|----------------------|
| 1. John Deere Hydraulic Reference Book | JOHN DEERE HYDRAULIC |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B      |
| 3. LAV Auto/Hull                       | TM 08594A-20/4       |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9       |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_        |
| 6. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1     |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

EXAM ID: 21470D10

HOURS: 3.50

TITLE: JKT Hydraulics/Compressed Air/Brakes

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(W)	3.25	8:1

MEDIA: HO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)
2. Given applicable resources, maintain pneumatic system, in accordance with the references. (2147.02.03)
3. Given applicable resources, maintain brake system, in accordance with the references. (2147.02.04)

REFERENCE

REFERENCE #

- |  |                      |
|--|----------------------|
| 1. John Deere Hydraulic Reference Book | JOHN DEERE HYDRAULIC |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A          |
| 3. LAV Auto/Hull                       | TM 08594A-20/4       |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9       |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_        |
| 6. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1     |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX D - PNEUMATIC/HYDRAULIC AND BRAKE SYSTEMS

EXAM ID: 21470D11

HOURS: 7.00

TITLE: JPT Hydraulics/Compressed Air/Brakes

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(P)	6.75	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)
2. Given applicable resources, maintain pneumatic system, in accordance with the references. (2147.02.03)
3. Given applicable resources, maintain brake system, in accordance with the references. (2147.02.04)

REFERENCE

REFERENCE #

- |  |                      |
|--|----------------------|
| 1. John Deere Hydraulic Reference Book | JOHN DEERE HYDRAULIC |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A          |
| 3. LAV Auto/Hull                       | TM 08594A-20/4       |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9       |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_        |
| 6. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1     |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E01

HOURS: 3.50

TITLE: Introduction to Drive Train, Steering and Suspension Systems

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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L	3.50	8:1
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MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain steering and suspension systems, in accordance with the references. (2147.02.05)
2. Given applicable resources, maintain drivetrain, in accordance with the references. (2147.02.09)
3. Given applicable resources, maintain marine drive system, in accordance with the references (2147.02.11)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the components of the suspension and steering system, in accordance with the references. (2147.02.05a)
2. Given applicable resources, identify the theory of operation of the suspension and steering system, in accordance with the references. (2147.02.05b)
3. Given applicable resources, on the vehicle, trace the path of power flow of the drive train, in accordance with the references. (2147.02.09a)
4. Given applicable resources, state the theory of operation of the drive train, in accordance with the references. (2147.02.09b)
5. Given applicable resources, identify the components of the marine drive system, in accordance with the references. (2147.02.11a)
6. Given applicable resources, state the theory of operation of the marine drive system, in accordance with the references. (2147.02.11b)

REFERENCE

REFERENCE #

- |                                 |                 |
|---------------------------------|-----------------|
| 1. Lubrication Instruction LAV  | LI 08594A-12/2B |
| 2. Light Armored Vehicle LAV-25 | SL-4-08594A     |
| 3. LAV-25 Operator's Manual     | TM 08594A-10/2B |
| 4. LAV Auto/Hull                | TM 08594A-20/4  |



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E01

HOURS: 3.50

TITLE: Introduction to Drive Train, Steering and Suspension Systems

5. Light Armored Vehicle LAV-25

TM 08594A-34/9

6. Ground Equipment Records Procedures

TM 4700-15/1\_

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E02

HOURS: 10.50

TITLE: Power Train Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	10.50	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain drivetrain, in accordance with the references. (2147.02.09)
2. Given applicable resources, maintain marine drive system, in accordance with the references (2147.02.11)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with the repair of power train components, in accordance with the references. (2147.02.09c)
2. Given applicable resources, diagnose transmission vibration/noise, shifting, lockup, slipping/jumping-out-of-gear, and overheating problems to determine needed repairs, in accordance with the references. (2147.02.09d)
3. Given applicable resources, explain how to locate equipment to safely remove and replace power train components, in accordance with the references. (2147.02.09e)
4. Given applicable resources, inspect, adjust, repair, or replace transmission remote shift linkages, cables, brackets, bushings, pivots, and levers, in accordance with the references. (2147.02.09f)
5. Given applicable resources, remove and replace transmission to inspect and replace transmission mounts, insulating, and mounting bolts (done during power pack removal), in accordance with the references. (2147.02.09g)
6. Given applicable resources, inspect for leakage and replace transmission cover plates, gaskets, sealants, seals, vents, and cap bolts to inspect seal surfaces, in accordance with the references. (2147.02.09h)
7. Given applicable resources, check transmission fluid level, and condition to determine needed service, and add proper type of lubricant, in accordance with the references. (2147.02.09i)
8. Given applicable resources, inspect transmission cases including mating surfaces, bore, bushings, pins, studs, vents, and magnetic plugs to determine needed repairs, in accordance with the references. (2147.02.09j)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E02

HOURS: 10.50

TITLE: Power Train Diagnosis and Repair

9. Given applicable resources, inspect, service, or replace transmission lubrication system, filter, lines and hoses, in accordance with the references. (2147.02.09k)
10. Given applicable resources, inspect, test, replace and adjust speedometer drive components (mechanical and electronic), in accordance with the references. (2147.02.09l)
11. Given applicable resources, inspect and test the function of neutral start switches, in accordance with the references. (2147.02.09m)
12. Given applicable resources, inspect and service transfer case, check fluid level, condition, and type, in accordance with the references. (2147.02.09n)
13. Given applicable resources, inspect, adjust, and repair transfer case manual shifting mechanisms, bushings, mounts, levers, and brackets, in accordance with the references. (2147.02.09o)
14. Given applicable resources, remove and replace transfer case, in accordance with the references. (2147.02.09p)
15. Given applicable resources, diagnose driveshaft and universal joint noise, vibration, and runout problems to determine cause of failure and needed repairs, in accordance with the references. (2147.02.09q)
16. Given applicable resources, inspect, service, or replace driveshaft, slip joints/yokes, yokes, drive flanges, universal joints, and retaining hardware, in accordance with the references. (2147.02.09r)
17. Given applicable resources, diagnose differential assembly noise and vibration problems to determine needed repairs, in accordance with the references. (2147.02.09s)
18. Given applicable resources, remove and replace differential assembly, in accordance with the references. (2147.02.09t)
19. Given applicable resources, inspect and clean differential vent, in accordance with the references. (2147.02.09u)
20. Given applicable resources, inspect and replace pneumatic shift cylinders, in accordance with the references. (2147.02.09v)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E02

HOURS: 10.50

TITLE: Power Train Diagnosis and Repair

21. Given applicable resources, identify the safety hazards associated with the repair of the marine drive, in accordance with the references. (2147.02.11c)
22. Given applicable resources, check marine drive fluid level and condition to determine needed services and add proper type of fluid, in accordance with the references. (2147.02.11d)
23. Given applicable resources, remove and replace marine drive differential, inspect and replace mounts, insulators, and mounting bolts, in accordance with the references. (2147.02.11e)
24. Given applicable resources, check propeller fluid level and condition to determine needed services and add proper type of fluid, in accordance with the references. (2147.02.11f)
25. Given applicable resources, remove and replace propeller units to ensure proper propeller direction, inspect and replace mounting bolts, in accordance with the references. (2147.02.11g)
26. Given applicable resources, check planetary fluid level and condition to determine needed services and add proper type of fluid, in accordance with the references. (2147.02.11h)
27. Given applicable resources, inspect planetary for fluid leakage and replace cover plate, inspect glass, gaskets, seals, vents, cap bolts, inspect seal areas. in accordance with the references. (2147.02.11i)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Lubrication Instruction LAV         | LI 08594A-12/2B |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9  |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E03

HOURS: 10.50

TITLE: Steering/Suspension System Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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PA	10.50	8:2
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MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain steering and suspension systems, in accordance with the references. (2147.02.05)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with suspension and steering repair, in accordance with the references. (2147.02.05c)
2. Given applicable resources, diagnose steering column noises and steering effort concerns to determine needed repairs, in accordance with the references. (2147.02.05d)
3. Given applicable resources, inspect, repair, adjust and replace steering column, steering shaft U-joint(s), flexible coupling(s), steering wheels, other steering wheel mounted controls and components, and wheel position indicator, in accordance with the references. (2147.02.05e)
4. Given applicable resources, inspect, adjust, align and replace power steering pump, in accordance with the references. (2147.02.05f)
5. Given applicable resources, diagnose power steering pump noises, vibration, and fluid leakage to determine needed repairs, in accordance with the references. (2147.02.05g)
6. Given applicable resources, perform power steering pressure and flow test to determine needed repairs,, in accordance with the references. (2147.02.05h)
7. Given applicable resources, inspect and replace power steering hoses, fittings, coolers, and filters, in accordance with the references. (2147.02.05i)
8. Given applicable resources, remove, replace, and adjust rack piston steering gear to inspect and replace mounting bushings and brackets, in accordance with the references. (2147.02.05j)
9. Given applicable resources, inspect and replace steering gear seals and gaskets, in accordance with the references. (2147.02.05k)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E03

HOURS: 10.50

TITLE: Steering/Suspension System Diagnosis and Repair

10. Given applicable resources, fill, and bleed power steering system, in accordance with the references. (2147.02.05l)
11. Given applicable resources, inspect and adjust (where applicable) front and rear steering linkage geometry, in accordance with the references. (2147.02.05m)
12. Given applicable resources, inspect and replace pitman arm, in accordance with the references. (2147.02.05n)
13. Given applicable resources, inspect and replace center link connecting rod, in accordance with the references. (2147.02.05o)
14. Given applicable resources, inspect, adjust (where applicable), and replace idler arm(s) and mountings, in accordance with the references. (2147.02.05p)
15. Given applicable resources, inspect, replace, and adjust tie rods, tie rod sleeves/adjusters, clamps, and tie rod ends (sockets/bushings), in accordance with the references. (2147.02.05q)
16. Given applicable resources, inspect and replace steering linkage damper(s), in accordance with the references. (2147.02.05r)
17. Given applicable resources, diagnose front suspension system noises, body sway/roll, and height concerns to determine needed repairs, in accordance with the references. (2147.02.05s)
18. Given applicable resources, demonstrate the proper procedures to remove and replace suspension components using lifting equipment, in accordance with the references. (2147.02.05t)
19. Given applicable resources, inspect and replace control arms, and torsion bars, in accordance with the references. (2147.02.05u)
20. Given applicable resources, inspect and replace ball joints, in accordance with the references. (2147.02.05v)
21. Given applicable resources, inspect and replace front strut assembly, in accordance with the references. (2147.02.05w)
22. Given applicable resources, inspect and replace front strut bearing and mount, in accordance with the references. (2147.02.05x)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E03

HOURS: 10.50

TITLE: Steering/Suspension System Diagnosis and Repair

23. Given applicable resources, diagnose rear suspension system noises, and ride height concerns to determine needed repairs, in accordance with the references. (2147.02.05y)
24. Given applicable resources, inspect and replace shock absorbers, mounts, and bushings, in accordance with the references. (2147.02.05z)
25. Given applicable resources, inspect and repair front cradle (crossmember/subframe/A-frame) mountings, bushings, brackets, and bolts, in accordance with the references. (2147.02.05aa)
26. Given applicable resources, diagnose vehicle wander, drift, pull, hard steering, bump steer (toe curve), memory steer, and torque steer, concerns to determine needed repairs, in accordance with the references. (2147.02.05ab)
27. Given applicable resources, measure and adjust front wheel toe-in, in accordance with the references. (2147.02.05ac)
28. Given applicable resources, center steering wheel, in accordance with the references. (2147.02.05ad)
29. Given applicable resources, measure toe-out-on-turns (turning radius/angle) to determine needed repairs, in accordance with the references. (2147.02.05ae)
30. Given applicable resources, diagnose tire wear patterns to determine needed repairs, in accordance with the references. (2147.02.05af)
31. Given applicable resources, measure and adjust tire air pressure, in accordance with the references. (2147.02.05ag)
32. Given applicable resources, diagnose wheel/tire vibration, shimmy, and noise concerns to determine needed repairs, in accordance with the references. (2147.02.05ah)
33. Given applicable resources, rotate tires/wheels and torque fasteners according to manufacturer's recommendations, in accordance with the references. (2147.02.05ai)
34. Given applicable resources, diagnose tire pull (lead) problems to determine needed repairs, in accordance with the references. (2147.02.05aj)

REFERENCE

REFERENCE #

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

LESSON ID: 21470E03

HOURS: 10.50

TITLE: Steering/Suspension System Diagnosis and Repair

- |  |                 |
|--|-----------------|
| 1. Lubrication Instruction LAV         | LI 08594A-12/2B |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9  |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_   |



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX E - DRIVE TRAIN, STEERING AND SUSPENSION

EXAM ID: 21470E04

HOURS: 3.50

TITLE: JKT Drive Train, Steering and Suspension

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(W)	3.25	8:1

MEDIA: HO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain steering and suspension systems, in accordance with the references. (2147.02.05)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Lubrication Instruction LAV         | LI 08594A-12/2B |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A     |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Light Armored Vehicle LAV-25        | TM 08594A-34/9  |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F01

HOURS: 7.00

TITLE: Fundamentals of Diesel Engines/Overview

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	3.50	8:1
PA	3.50	8:2

MEDIA: HO, WBK

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references.  
(2147.02.08)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, state Charles' Law in accordance with the references.  
(2147.02.08a)
2. Given applicable resources, state Boyles' Law in accordance with the references.  
(2147.02.08b)
3. Given applicable resources, define combustion, in accordance with the references.  
(2147.02.08c)
4. Given applicable resources, define compression ratio/compression, in accordance with the references. (2147.02.08d)
5. Given applicable resources, define top dead center, in accordance with the references. (2147.02.08e)
6. Given applicable resources, define bottom dead center, in accordance with the references. (2147.02.08f)
7. Given applicable resources, define stroke, in accordance with the references.  
(2147.02.08g)
8. Given applicable resources, define stoichiometric ratio, in accordance with the references. (2147.02.08h)
9. Given applicable resources, define kinetic energy, in accordance with the references. (2147.02.08i)
10. Given applicable resources, define centrifugal force, in accordance with the references. (2147.02.08j)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F01

HOURS: 7.00

TITLE: Fundamentals of Diesel Engines/Overview

11. Given applicable resources, define adiabatic efficiency, in accordance with the references. (2147.02.08k)
12. Given applicable resources, define thermal efficiency, in accordance with the references. (2147.02.08l)
13. Given applicable resources, define boost, in accordance with the references. (2147.02.08m)
14. Given applicable resources, define mechanical efficiency, in accordance with the references. (2147.02.08n)
15. Given applicable resources, define lift, in accordance with the references. (2147.02.08o)
16. Given applicable resources, define duration, in accordance with the references. (2147.02.08p)
17. Given applicable resources, define valve overlap, in accordance with the references. (2147.02.08q)
18. Given applicable resources, define scavenging, in accordance with the references. (2147.02.08r)
19. Given applicable resources, define force induction, in accordance with the references. (2147.02.08s)
20. Given applicable resources, identify fundamentals of diesels engines, in accordance with the references. (2147.02.08t)
21. Given applicable resources, identify the systems of a diesel engine, in accordance with the references. (2147.02.08u)
22. Given applicable resources, state the safety concerns for working on diesel engines, in accordance with the references. (2147.02.08v)
23. Given applicable resources, identify the components of a diesel engine, in accordance with the references. (2147.02.08w)
24. Given applicable resources, identify the theory of operation of diesel engines, in

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F01

HOURS: 7.00

TITLE: Fundamentals of Diesel Engines/Overview

accordance with the references. (2147.02.08x)

25. Given applicable resources, identify the components of the air induction system, in accordance with the references. (2147.02.08y)
26. Given applicable resources, identify the theory of operation of air induction system, in accordance with the references. (2147.02.08z)
27. Given applicable resources, identify the components of the fuel system, in accordance with the references. (2147.02.08aa)
28. Given applicable resources, identify the theory of operation of the fuel system, in accordance with the references. (2147.02.08ab)
29. Given applicable resources, identify the components of the lubrication system, in accordance with the references. (2147.02.08ac)
30. Given applicable resources, identify the theory of operation of the lubrication system, in accordance with the references. (2147.02.08ad)
31. Given applicable resources, identify the components of the cooling system, in accordance with the references. (2147.02.08ae)
32. Given applicable resources, identify the theory of operation of the cooling system, in accordance with the references. (2147.02.08af)
33. Given applicable resources, identify the cycle of operation of 2 stroke and 4 stroke diesel engine, in accordance with the references. (2147.02.08ag)
34. Given applicable resources, state the most likely causes of engine failure, in accordance with the references. (2147.02.08ah)

REFERENCE

1. Engine Manual
2. MCI Fundamentals of Diesel Engines
3. LAV-25 Operator's Manual
4. LAV Auto/Hull

REFERENCE #

JOHN DEERE ENGINE  
MCI #1321  
TM 08594A-10/2B  
TM 08594A-20/4

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F01

HOURS: 7.00

TITLE: Fundamentals of Diesel Engines/Overview

5. Ground Equipment Records Procedures

TM 4700-15/1\_

6. Engine Diesel, 6Cyl Turbo Charger

TM 8A192C-34&P/1

7. Principles of Automotive Vehicles

TM 9-8000

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F02

HOURS: 7.00

TITLE: General Engine Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	6.00	8:2

MEDIA: AIO, CPU, MU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references. (2147.02.08)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, perform visual inspection for physical damage and missing, modified, or tampered components to determine needed repairs, in accordance with the references. (2147.02.08ai)
2. Given applicable resources, research applicable vehicle and service information, service precautions, and technical service bulletins to determine needed actions, in accordance with the references. (2147.02.08aj)
3. Given applicable resources, perform stall test with engine in hull; determine needed repairs, in accordance with the references. (2147.02.08ak)
4. Given applicable resources, listen for and diagnose engine noises to determine needed repairs, in accordance with the references. (2147.02.08al)
5. Given applicable resources, inspect engine assembly and compartment for fuel, oil, coolant, exhaust, or other leaks to determine needed repairs, in accordance with the references. (2147.02.08am)
6. Given applicable resources, inspect engine compartment wiring harness, connectors, seals, and locks, check for proper routing to determine needed repairs, in accordance with the references. (2147.02.08an)
7. Given applicable resources, check engine exhaust emissions, odor, smoke color, opacity (density) and quantity to determine needed repairs, in accordance with the references. (2147.02.08ao)
8. Given applicable resources, perform fuel supply and return system test, check fuel for contamination, quality, and consumption to determine needed repairs, in accordance with the references. (2147.02.08ap)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F02

HOURS: 7.00

TITLE: General Engine Diagnosis and Repair

9. Given applicable resources, perform air intake system restriction and leakage test to determine needed repairs, in accordance with the references. (2147.02.08aq)
10. Given applicable resources, perform exhaust back pressure and temperature test to determine needed repairs, in accordance with the references. (2147.02.08ar)
11. Given applicable resources, perform crankcase and air box pressure test to determine needed repairs, in accordance with the references. (2147.02.08as)
12. Given applicable resources, diagnose no cranking, cranks but fails to start, hard starting, and starts but does not continue to run problems to determine needed repairs, in accordance with the references. (2147.02.08at)
13. Given applicable resources, diagnose surging, rough operation, misfiring, low power, slow deceleration, slow acceleration, and shutdown problems to determine needed repairs, in accordance with the references. (2147.02.08au)
14. Given applicable resources, isolate and diagnose engine related vibration problems to determine needed repairs, in accordance with the references. (2147.02.08av)
15. Given applicable resources, check cooling system for temperature protection level, concentration, coolant type and level, temperature, pressure, conditioner concentration, filtration, and fan operation to determine needed repairs, in accordance with the references. (2147.02.08aw)
16. Given applicable resources, check lubrication system for contamination, oil level, quality, temperature, pressure, filtration, and oil consumption to determine needed repairs, in accordance with the references. (2147.02.08ax)

REFERENCE

REFERENCE #

- |  |                   |
|--|-------------------|
| 1. Engine Manual                       | JOHN DEERE ENGINE |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 3. LAV-25 Operator's Manual            | TM 08594A-10/2B   |
| 4. LAV Auto/Hull                       | TM 08594A-20/4    |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 6. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1  |
| 7. Principles of Automotive Vehicles   | TM 9-8000         |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F02

HOURS: 7.00

TITLE: General Engine Diagnosis and Repair



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F03

HOURS: 2.25

TITLE: Lubrication and Cooling System Theory/Troubleshooting

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.75	8:1
PA	1.50	8:2

MEDIA: AIO, CPU, MU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references. (2147.02.08)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with lubrication and cooling system repair, in accordance with the references. (2147.02.08ay)
2. Given applicable resources, verify engine oil pressure and check operation of pressure sensor, pressure gauge, and sending unit, in accordance with the references. (2147.02.08az)
3. Given applicable resources, inspect, repair/replace oil pressure filters, in accordance with the references. (2147.02.08ba)
4. Given applicable resources, inspect turbocharger lubrication system, repair/replace as needed, in accordance with the references. (2147.02.08bb)
5. Given applicable resources, inspect and reinstall/replace pulleys, tensioners and drive belts, adjust drive belts and check alignment. in accordance with the references. (2147.02.08bc)
6. Given applicable resources, verify coolant temperature and check operation of temperature and level sensors, temperature gauge, and sending unit, in accordance with the references. (2147.02.08bd)
7. Given applicable resources, inspect and replace thermostat(s), by-passes, housing(s), and seals, in accordance with the references. (2147.02.08be)
8. Given applicable resources, flush and refill coolant system, bleed air from system, recover coolant, in accordance with the references. (2147.02.08bf)
9. Given applicable resources, inspect, repair/replace coolant conditioner/filter, check valves, lines, and fittings, in accordance with the references. (2147.02.08bg)

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F03

HOURS: 2.25

TITLE: Lubrication and Cooling System Theory/Troubleshooting

10. Given applicable resources, inspect, repair/replace water pump, housing, hoses, and idler pulley, in accordance with the references. (2147.02.08bh)
11. Given applicable resources, inspect radiator, pressure cap, and tank(s) to determine needed service, in accordance with the references. (2147.02.08bi)
12. Given applicable resources, pressure test cooling system and radiator cap to determine needed repairs, in accordance with the references. (2147.02.08bj)
13. Given applicable resources, inspect, repair/replace fan motor, fan, mechanical and electronic fan controls, and fan shroud, in accordance with the references. (2147.02.08bk)
14. Given applicable resources, explain the theory of operation of the engine brake, in accordance with the references. (2147.02.08bl)

NOTE(S):

Engine coolant will be removed, recycled and refilled during annual PMCS class.

REFERENCE

REFERENCE #

- |  |                   |
|--|-------------------|
| 1. Engine Manual                       | JOHN DEERE ENGINE |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 3. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B   |
| 5. LAV Auto/Hull                       | TM 08594A-20/4    |
| 6. LAV Auto/Hull                       | TM 08594A-20/4    |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1  |
| 10. Principles of Automotive Vehicles  | TM 9-8000         |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F04

HOURS: 2.25

TITLE: Air Induction Theory

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.75	8:1
PA	1.50	8:2

MEDIA: AIO, CPU, MU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references. (2147.02.08)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the components of the air induction system, in accordance with the references. (2147.02.08bm)
2. Given applicable resources, identify the theory of operation of the air induction system, in accordance with the references. (2147.02.08bn)
3. Given applicable resources, inspect, service/replace air induction piping, pre-cleaner air cleaner, and element, check for air restriction, in accordance with the references. (2147.02.08bo)
4. Given applicable resources, inspect and clean pre-cleaner and air filter, in accordance with the references. (2147.02.08bp)
5. Given applicable resources, inspect, repair/replace exhaust manifold, gaskets, piping, mufflers, and mounting hardware, in accordance with the references. (2147.02.08bq)
6. Given applicable resources, inspect, repair/ replace preheater/inlet air heater, or glow plug system and controls, in accordance with the references. (2147.02.08br)

REFERENCE

REFERENCE #

- |                                 |                   |
|---------------------------------|-------------------|
| 1. Engine Manual                | JOHN DEERE ENGINE |
| 2. Light Armored Vehicle LAV-25 | SL-4-08594A       |
| 3. Light Armored Vehicle LAV-25 | SL-4-08594A       |
| 4. LAV-25 Operator's Manual     | TM 08594A-10/2B   |
| 5. LAV Auto/Hull                | TM 08594A-20/4    |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F04

HOURS: 2.25

TITLE: Air Induction Theory

- |  |                  |
|--|------------------|
| 6. LAV Auto/Hull                       | TM 08594A-20/4   |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_    |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_    |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1 |
| 10. Principles of Automotive Vehicles  | TM 9-8000        |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F05

HOURS: 2.50

TITLE: Fuel System Theory/Troubleshooting

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	1.50	8:2

MEDIA: AIO, CPU, MU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references. (2147.02.08)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with fuel system repair, in accordance with the references. (2147.02.08bs)
2. Given applicable resources, inspect, repair/ replace fuel, vents, cap(s), mounts, valves, screens, crossover system, supply and return lines and fittings, in accordance with the references. (2147.02.08bt)
3. Given applicable resources, explain how to remove and replace a fuel tank, in accordance with the references. (2147.02.08bu)
4. Given applicable resources, inspect, clean, test, repair/replace fuel transfer (lift) pump, pump drives, screens, fuel/water separators/indicators, filters, and mounting hardware, in accordance with the references. (2147.02.08bv)
5. Given applicable resources, check fuel system for air to determine needed repairs, prime and bleed fuel system, check, repair/replace primer pump, in accordance with the references. (2147.02.08bw)
6. Given applicable resources, inspect, adjust, repair/replace throttle and linkage/cable and controls, in accordance with the references. (2147.02.08bx)
7. Given applicable resources, perform on-engine inspections, test, and adjustments, or replace mechanical unit injectors, in accordance with the references. (2147.02.08by)
8. Given applicable resources, inspect, reinstall/replace injection lines, fittings, seals, and mounting hardware, in accordance with the references. (2147.02.08bz)
9. Given applicable resources, inspect, test, adjust, repair/replace engine fuel shut-off devices and controls, including engine protection shut-down devices,

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F05

HOURS: 2.50

TITLE: Fuel System Theory/Troubleshooting

circuits and sensors, in accordance with the references. (2147.02.08ca)

10. Given applicable resources, inspect and test voltage, and ground circuits and connections for electrical/electronic components to determine needed repairs, in accordance with the references. (2147.02.08cb)
11. Given applicable resources, inspect and replace electrical connector terminals, pins, harnesses, seals, and locks, in accordance with the references. (2147.02.08cc)
12. Given applicable resources, connect diagnostic tool to vehicle/engine, and access parameters to determine needed repairs, in accordance with the references. (2147.02.08cd)
13. Given applicable resources, measure and interpret voltage, voltage drop, amperage, and resistance readings in wiring harnesses using a digital multimeter (DMM), in accordance with the references. (2147.02.08ce)

NOTE(S):

Adjustment of fuel injectors, governor controls and shutoff devices will be performed during engine tune-up.

REFERENCE

REFERENCE #

- |  |                   |
|--|-------------------|
| 1. Engine Manual                       | JOHN DEERE ENGINE |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 3. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B   |
| 5. LAV Auto/Hull                       | TM 08594A-20/4    |
| 6. LAV Auto/Hull                       | TM 08594A-20/4    |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1  |
| 10. Principles of Automotive Vehicles  | TM 9-8000         |
| 11. Portable fuel filtration System    | TM-10524A-12&P    |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

EXAM ID: 21470F06

HOURS: 3.50

TITLE: JKT Diesel Engine/Cooling/Fuel/Air Induction

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(W)	3.25	8:1

MEDIA: HO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references.  
(2147.02.08)

REFERENCE

REFERENCE #

- |  |                   |
|--|-------------------|
| 1. Engine Manual                       | JOHN DEERE ENGINE |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 3. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B   |
| 5. LAV Auto/Hull                       | TM 08594A-20/4    |
| 6. LAV Auto/Hull                       | TM 08594A-20/4    |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1  |
| 10. Principles of Automotive Vehicles  | TM 9-8000         |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F07

HOURS: 14.00

TITLE: Engine Tune Up

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	13.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, perform scheduled preventative maintenance checks and services (PMCS), in accordance with the references. (2147.02.12)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the safety hazards associated with engine tune-up, in accordance with the references. (2147.02.12a)
2. Given applicable resources, identify sequence for performing LAV engine tune up, in accordance with the references. (2147.02.12b)
3. Given applicable resources, identify procedures for installing the LAV powerpack on the Power Pack Ground Hop Stand (PPGHS), in accordance with the references. (2147.02.12c)
4. Given applicable resources, identify Power Pack Ground Hop Stand (PPGHS) operation procedures, in accordance with the references. (2147.02.12d)
5. Given applicable resources, perform "before" operations checks, in accordance with the references. (2147.02.12e)
6. Given applicable resources, perform start-up procedures, in accordance with the references. (2147.02.12f)
7. Given applicable resources, perform (hot or cold engine) exhaust valve clearance adjustment, in accordance with the references. (2147.02.12g)
8. Given applicable resources, perform LAV engine fuel injector adjustment, in accordance with the references. (2147.02.12h)
9. Given applicable resources, perform LAV injector timing adjustment, in accordance with the references. (2147.02.12i)
10. Given applicable resources, perform LAV engine brake adjustment procedures, in



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F07

HOURS: 14.00

TITLE: Engine Tune Up

accordance with the references. (2147.02.12j)

11. Given applicable resources, perform LAV engine injector rack adjustment, in accordance with the references. (2147.02.12k)
12. Given applicable resources, perform LAV engine governor gap adjustment, in accordance with the references. (2147.02.12l)
13. Given applicable resources, perform LAV engine maximum No-load speed adjustment, in accordance with the references. (2147.02.12m)
14. Given applicable resources, perform LAV engine maximum idle speed adjustment, in accordance with the references. (2147.02.12n)
15. Given applicable resources, perform LAV engine minimum idle speed adjustment, in accordance with the references. (2147.02.12o)
16. Given applicable resources, perform LAV engine buffer switch adjustment, in accordance with the references. (2147.02.12p)
17. Given applicable resources, perform LAV engine fuel modulator adjustment, in accordance with the references. (2147.02.12q)
18. Given applicable resources, perform LAV engine starting aid screw adjustment, in accordance with the references. (2147.02.12r)
19. Given applicable resources, perform LAV engine system evaluation procedures, in accordance with the references. (2147.02.12s)
20. Given applicable resources, perform "during" operations checks, in accordance with the references. (2147.02.12t)
21. Given applicable resources, perform shut down procedures, in accordance with the references. (2147.02.12u)
22. Given applicable resources, perform "after" operations checks, in accordance with the references. (2147.02.12v)

REFERENCE

REFERENCE #

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

LESSON ID: 21470F07

HOURS: 14.00

TITLE: Engine Tune Up

1. Engine Manual	JOHN DEERE ENGINE
2. Light Armored Vehicle LAV-25	SL-4-08594A
3. Light Armored Vehicle LAV-25	SL-4-08594A
4. LAV-25 Operator's Manual	TM 08594A-10/2B
5. LAV Auto/Hull	TM 08594A-20/4
6. LAV Auto/Hull	TM 08594A-20/4
7. Ground Equipment Records Procedures	TM 4700-15/1_
8. Ground Equipment Records Procedures	TM 4700-15/1_
9. Engine Diesel, 6Cyl Turbo Charger	TM 8A192C-34&P/1
10. Principles of Automotive Vehicles	TM 9-8000

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX F - DIESEL ENGINE

EXAM ID: 21470F08

HOURS: 3.50

TITLE: JPT Engine Tune Up

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(P)	3.25	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, perform scheduled preventative maintenance checks and services (PMCS), in accordance with the references. (2147.02.12)

REFERENCE

REFERENCE #

- |  |                   |
|--|-------------------|
| 1. Engine Manual                       | JOHN DEERE ENGINE |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 3. Light Armored Vehicle LAV-25        | SL-4-08594A       |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B   |
| 5. LAV Auto/Hull                       | TM 08594A-20/4    |
| 6. LAV Auto/Hull                       | TM 08594A-20/4    |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_     |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1  |
| 10. Engine Diesel, 6Cyl Turbo Charger  | TM 8A192C-34&P/1  |
| 11. Principles of Automotive Vehicles  | TM 9-8000         |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX G - ANNUAL SCHEDULED PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

LESSON ID: 21470G01

HOURS: 21.00

TITLE: Annual Scheduled Preventative Maintenance Checks and Services (PMCS)

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	2.00	8:1
PA	19.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, maintain powerpack, in accordance with the references.  
(2147.02.08)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify safety hazards associated with removal/installation of the power pack, in accordance with the references.  
(2147.02.08cf)
2. Given applicable resources, operate weight handling equipment in order to remove LAV power pack, in accordance with the references. (2147.02.08cg)
3. Given applicable resources, identify the requirements to remove/install the power pack, in accordance with the references. (2147.02.08ch)
4. Given applicable resources, remove coolant utilizing a coolant recycler, in accordance with the references. (2147.02.08ci)
5. Given applicable resources, perform power pack removal procedures for the LAV FOV, in accordance with the references. (2147.02.08cj)
6. Given applicable resources, perform LTI/modification verification on LAV hull/power pack, in accordance with the references. (2147.02.08ck)
7. Given applicable resources, conduct annual PMCS procedures on LAV hull, in accordance with the references. (2147.02.08cl)
8. Given applicable resources, conduct annual PMCS procedures on fire suppression system, in accordance with the references. (2147.02.08cm)
9. Given applicable resources, perform front end 4-wheel alignment procedures, in accordance with the references. (2147.02.08cn)
10. Given applicable resources, install power pack assembly, in accordance with the

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX G - ANNUAL SCHEDULED PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

LESSON ID: 21470G01

HOURS: 21.00

TITLE: Annual Scheduled Preventative Maintenance Checks and Services (PMCS)

references. (2147.02.08co)

11. Given applicable resources, perform quality control checks and road test, in accordance with the references. (2147.02.08cp)

REFERENCE

REFERENCE #

- |  |                  |
|--|------------------|
| 1. LAV-25 Operator's Manual                  | TM 08594A-10/2B  |
| 2. LAV Auto/Hull                             | TM 08594A-20/4   |
| 3. Ground Equipment Records Procedures       | TM 4700-15/1_    |
| 4. Engine Diesel, 6Cyl Turbo Charger         | TM 8A192C-34&P/1 |
| 5. Portable fuel filtration System           | TM-10524A-12&P   |
| 6. Antifreeze Recycling & Reclamation System | TM-10700-12&P    |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

EXAM ID: 21470H01

HOURS: 3.50

TITLE: Final Exam (JKT)

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(W)	3.25	8:1

MEDIA: HO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)
2. Given applicable resources, perform operator preventative maintenance checks and services (PMCS), in accordance with the references. (2147.01.02)
3. Given applicable resources, operate common auxiliary equipment, in accordance with the references. (2147.01.03)
4. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)
5. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)
6. Given applicable resources, maintain pneumatic system, in accordance with the references. (2147.02.03)
7. Given applicable resources, maintain brake system, in accordance with the references. (2147.02.04)
8. Given applicable resources, maintain steering and suspension systems, in accordance with the references. (2147.02.05)
9. Given applicable resources, maintain cooling system, in accordance with the references. (2147.02.06)
10. Given applicable resources, maintain fuel system, in accordance with the references. (2147.02.07)
11. Given applicable resources, maintain powerpack, in accordance with the references. (2147.02.08)
12. Given applicable resources, maintain drivetrain, in accordance with the references. (2147.02.09)
13. Given applicable resources, maintain fire suppression system, in accordance with the references. (2147.02.10)
14. Given applicable resources, maintain marine drive system, in accordance with the references (2147.02.11)
15. Given applicable resources, perform scheduled preventative maintenance checks and

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

EXAM ID: 21470H01

HOURS: 3.50

TITLE: Final Exam (JKT)

services (PMCS), in accordance with the references. (2147.02.12)

16. Given applicable resources, perform limited technical inspection (LTI), in accordance with the references (2147.02.13)

REFERENCE

REFERENCE #

- |  |                  |
|--|------------------|
| 1. Lubrication Instruction LAV-R       | LI 08651-12/A    |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A      |
| 3. Operator's Manual LAV-25 Turret     | TM 08594A-10/1   |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B  |
| 5. LAV Auto/Hull                       | TM 08594A-20/4   |
| 6. LAV Recovery Operator Manual        | TM 08651A-10A    |
| 7. Light Armored Vehicle-Recovery      | TM 08651A-20/4   |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_    |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1 |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

EXAM ID: 21470H02

HOURS: 10.50

TITLE: Final Exam JPT

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(P)	10.25	8:2

MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)
2. Given applicable resources, perform operator preventative maintenance checks and services (PMCS), in accordance with the references. (2147.01.02)
3. Given applicable resources, operate common auxiliary equipment, in accordance with the references. (2147.01.03)
4. Given applicable resources, maintain electrical system, in accordance with the references. (2147.02.01)
5. Given applicable resources, maintain hydraulic system, in accordance with the references. (2147.02.02)
6. Given applicable resources, maintain pneumatic system, in accordance with the references. (2147.02.03)
7. Given applicable resources, maintain brake system, in accordance with the references. (2147.02.04)
8. Given applicable resources, maintain steering and suspension systems, in accordance with the references. (2147.02.05)
9. Given applicable resources, maintain cooling system, in accordance with the references. (2147.02.06)
10. Given applicable resources, maintain fuel system, in accordance with the references. (2147.02.07)
11. Given applicable resources, maintain powerpack, in accordance with the references. (2147.02.08)
12. Given applicable resources, maintain drivetrain, in accordance with the references. (2147.02.09)
13. Given applicable resources, maintain fire suppression system, in accordance with the references. (2147.02.10)
14. Given applicable resources, maintain marine drive system, in accordance with the references (2147.02.11)
15. Given applicable resources, perform scheduled preventative maintenance checks and



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

EXAM ID: 21470H02

HOURS: 10.50

TITLE: Final Exam JPT

services (PMCS), in accordance with the references. (2147.02.12)

16. Given applicable resources, perform limited technical inspection (LTI), in accordance with the references (2147.02.13)

REFERENCE

REFERENCE #

- |  |                  |
|--|------------------|
| 1. LAV-R Stock List                    | SL-4 08561A      |
| 2. Light Armored Vehicle LAV-25        | SL-4-08594A      |
| 3. LAV-25 Operator's Manual            | TM 08594A-10/2B  |
| 4. LAV Auto/Hull                       | TM 08594A-20/4   |
| 5. LAV Auto/Hull                       | TM 08594A-20/4   |
| 6. LAV Recovery Operator Manual        | TM 08651A-10A    |
| 7. Ground Equipment Records Procedures | TM 4700-15/1_    |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_    |
| 9. Engine Diesel, 6Cyl Turbo Charger   | TM 8A192C-34&P/1 |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

EXAM ID: 21470H03

HOURS: 2.00

TITLE: License Exam (JKT)

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	0.25	8:1
X(W)	1.75	8:1

MEDIA: HO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)

NOTE(S):

This test is to issue a learner's permit to the students.

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Operator's Manual LAV-25 Turret     | TM 08594A-10/1  |
| 2. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 3. LAV Auto/Hull                       | TM 08594A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |
| 5. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H04

HOURS: 10.50

TITLE: Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
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PA	10.50	8:2
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MEDIA: AIO

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)
2. Given applicable resources, operate common auxiliary equipment, in accordance with the references. (2147.01.03)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, drive the LAV during night time hours while using of the Driver's Vision Enhancement (DVE), in accordance with the references. (2147.01.01u)
2. Given applicable resources, identify LAV auxiliary systems, in accordance with the references. (2147.01.03a)
3. Given applicable resources, perform LAV auxiliary systems check out procedures, in accordance with the references. (2147.01.03b)
4. Given applicable resources, perform troubleshooting/fault isolation procedures on LAV auxiliary systems, in accordance with the references. (2147.01.03c)
5. Given applicable resources, repair malfunction on LAV auxiliary systems, in accordance with the references. (2147.01.03d)
6. Given applicable resources, perform PMCS on LAV auxiliary systems, in accordance with the references. (2147.01.03e)

NOTE(S):

- A. Preconditions at the schoolhouse, stage vehicles in the bay in order of march.
  1. Before operations checks completed
  2. Communication checks completed
  3. Assign radio (hand held) to vehicle commanders
  4. Night driving brief to operators: i.e. starting points, vehicle gaps, emergency actions
  5. Ensure operators are in good health
  6. Issue night drive equipment

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H04

HOURS: 10.50

TITLE: Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization

B. At starting point (SP)

1. Attach chem lights to vehicle
2. Final before operation checks
3. Assign drivers to vehicles (pace setter, convoy commander)
4. Communication checks, black-out lights

C. Gap (distance between vehicles) on the move (close column)

1. 150 feet between vehicles
2. Maintain radio silence except convoy commander

D. Emergency action

1. Convoy stops all vehicles will turn on lights
2. Convoy commander evaluates situation
3. Contact range control and OOD

E. Equipment breakdown

1. Convoy commander makes call

F. Midway point

1. Stop gap is 100 feet between vehicles
2. Perform at halt checks
3. Report problem to vehicle commander/ convoy commander

G. End point

1. Perform after operations checks
2. Change drivers
3. Debrief

H. Total driving time (1) hour per student

1. 3-5 vehicles
2. 8-16 students
3. Begin time 2 hours prior to dusk
4. End time TBD
5. Speed 5-20 mph

I. Vehicle type

1. Light Armored Vehicle (8 wheeled, 14 tons)

REFERENCE

1. Light Armored Vehicle LAV-25
2. Light Armored Vehicle LAV-25

REFERENCE #

SL-4-08594A  
SL-4-08594A

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H04

HOURS: 10.50

TITLE: Night Drive/Turret Familiarization/Auxiliary Systems/M242 Familiarization

- |   |                   |
|---|-------------------|
| 3. Operator's Manual LAV-25 Turret        | TM 08594A-10/1    |
| 4. LAV-25 Operator's Manual               | TM 08594A-10/2B   |
| 5. LAV Auto/Hull                          | TM 08594A-20/4    |
| 6. LAV Recovery Operator Manual           | TM 08651A-10A     |
| 7. Light Armored Vehicle-Recovery         | TM 08651A-20/4    |
| 8. LAV-AT Operator Manual                 | TM 08652A-10/2    |
| 9. Viewer, Drivers Night Vision, AN/VVS-2 | TM 11-5855-249-10 |
| 10. Ground Equipment Records Procedures   | TM 4700-15/1_     |
| 11. Engine Diesel, 6Cyl Turbo Charger     | TM 8A192C-34&P/1  |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H05

HOURS: 7.00

TITLE: Auxiliary Systems Diagnosis and Repair

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	1.00	8:1
PA	6.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, diagnose and repair fire suppression system, in accordance with the references. (2147.01.01h)
2. Given applicable resources, diagnose and repair NBC system, in accordance with the references. (2147.01.01i)
3. Given applicable resources, diagnose and repair heater system, in accordance with the references. (2147.01.01j)
4. Given applicable resources, diagnose and repair periscope, in accordance with the references. (2147.01.01k)

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 2. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 3. Light Armored Vehicle-Recovery      | TM 08651A-20/4  |
| 4. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H06

HOURS: 9.00

TITLE: LAV-R Operate

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
L	3.00	8:1
PA	6.00	8:2

MEDIA: AIO, CPU, PPP

TERMINAL LEARNING OBJECTIVE(S):

1. Given applicable resources, operate the LAV FOV hull, in accordance with the references. (2147.01.01)

ENABLING LEARNING OBJECTIVE(S):

1. Given applicable resources, identify the components of the LAV-R (Recovery Vehicle), in accordance with the references. (2147.01.01l)
2. Given applicable resources, identify the theory of operation of the LAV-R (Recovery Vehicle), in accordance with the references. (2147.01.01m)
3. Given applicable resources, perform crane operations (Recovery Vehicle), in accordance with the references. (2147.01.01n)
4. Given applicable resources, perform winch operations, in accordance with the references. (2147.01.01o)
5. Given applicable resources, operate the generator, in accordance with the references. (2147.01.01p)
6. Given applicable resources, perform check out procedures on the LAV-R (Recovery Vehicle), in accordance with the references. (2147.01.01q)
7. Given applicable resources, perform PMCS on the LAV-R (Recovery Vehicle), in accordance with the references. (2147.01.01r)

NOTE(S):

done in conjunction with I06.

REFERENCE

1. LAV-25 Operator's Manual
2. LAV Auto/Hull

REFERENCE #

TM 08594A-10/2B  
TM 08594A-20/4

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H06

HOURS: 9.00

TITLE: LAV-R Operate

3. LAV Recovery Operator Manual

TM 08651A-10A

4. Light Armored Vehicle-Recovery

TM 08651A-20/4

5. Ground Equipment Records Procedures

TM 4700-15/1\_



LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX H - LAV-R OPERATION AND FINAL EXAM

LESSON ID: 21470H07

HOURS: 6.50

TITLE: After Checks PMCS

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
PA	6.50	8:2

MEDIA: AIO

LESSON PURPOSE:

This class is taught in conjunction with 21470H04 upon return from night drive.

REFERENCE

REFERENCE #

- |  |                 |
|--|-----------------|
| 1. Lubrication Instruction LAV         | LI 08594A-12/2B |
| 2. Lubrication Instruction LAV-R       | LI 08651-12/A   |
| 3. Lubrication Instruction LAV-AT      | LI 08652-12/2A  |
| 4. LAV-25 Operator's Manual            | TM 08594A-10/2B |
| 5. LAV Auto/Hull                       | TM 08594A-20/4  |
| 6. LAV Recovery Operator Manual        | TM 08651A-10A   |
| 7. Light Armored Vehicle-Recovery      | TM 08651A-20/4  |
| 8. Ground Equipment Records Procedures | TM 4700-15/1_   |

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX Z - ADMINISTRATIVE

EVENT ID: 21470Z01

HOURS: 8.00

EVENT: In Processing

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
IP	8.00	8:1

MEDIA:

NOTE(S):

During this time period the Marine will fill out all necessary paperwork, receive a financial and medical brief, receive an academic in brief from the academic coordinator, and receive command welcome aboard briefs from the CO and the 1stSgt.

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX Z - ADMINISTRATIVE

EVENT ID: 21470Z02

HOURS: 8.00

EVENT: Out Processing

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
OP	8.00	8:1

MEDIA:

NOTE(S):

The students will receive their orders, check out of medical, dental, supply, and various organizations aboard APG. The graduation consists of a small ceremony where the Marines receive their diplomas.

LIGHT ARMORED VEHICLE REPAIRMAN (2147)

SECTION IV - CONCEPT CARDS

ANNEX Z - ADMINISTRATIVE

EVENT ID: 21470Z03

HOURS: 43.00

EVENT: Commanders Time

<u>METHOD</u>	<u>HOURS</u>	<u>S:I RATIO</u>
CMDR	43.00	8:1

MEDIA: N/A

NOTE(S):

There are 40 sessions where commanders time will be implemented in the schedule for a total of 30 non-academic hours. During this time the Marines will conduct Physical Training and have uniform inspections.

SECTION V - STUDENT PERFORMANCE EVALUATION

1. SCOPE. There are two measurement methods used in the Light Armored Vehicle Repairman Course. Individual lessons are evaluated by either performance evaluation calling for the student to duplicate the job performance requirements or test items on written examinations given during class.
2. MASTERY LEARNING. The evaluative philosophy utilized in this course stresses student achievement of all learning objectives. Students must master 100% of all Terminal Learning Objectives (TLOs) presented during all periods of instruction. Evaluations are used to determine mastery of the learning objectives, and not rank order the students. The minimum score of 80% is required to pass an exam.
3. EVALUATION OF STUDENTS. Each student is evaluated on each annex's learning objectives before proceeding to the next annex. This is accomplished through written test items concerning the subject material and through informal observation of student performance during performance testing.
  - a. Written Evaluations. Knowledge-based learning objectives are evaluated by written examinations given through the course that contain written test items.
  - b. Practical Application. Students will be informally evaluated and provided feedback by instructors through observation of student performance during practical application.
  - c. Performance Evaluation. A performance test covering all performance based learning objectives is conducted at the end of each annex. Students are evaluated via a performance checklist completed by the instructors. Instructors evaluate student performance and provide feedback and remedial instruction. The student who does not master a given subject must exert more effort and will be given one additional opportunity to achieve mastery of the learning objectives through remedial instruction. It is the responsibility of the Light Armored Vehicle Repairman Course staff to render every assistance to each student needing help to achieve mastery.
  - d. A complete listing of all exams given can be found in section IV.

LIGHT ARMORED VEHICLE REPAIRMAN (2147) PROGRAM OF INSTRUCTION

SECTION VI - DISTRIBUTION LIST

<u>DISTRIBUTION</u>	<u>QUANTITY</u>
COMMARFORRES	1
COMMARFORLANT	1
COMMARFORPAC	1
Marine Corps Institute (MCI)	1